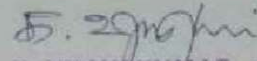Er.K.VIJAYAKUMAR,M.E
Cell : +91 9943351257

MIDHUN CONSTRUCTION

- Licensed Building Surveyor
- Consulting Civil Engineer
- Building Contractor

No.5/60 Arur South
Alampatti,Valayapatti(via)
Namakkal 637020

TO WHOMSOEVER IT MAY CONCERN

We here write this letter to Mr.R.G.AMISH have quoting that we quoting that we observed your Performance during the intership with organization for the past 30 days from month of November 2020. During your tenure with us we find you sincere and hardworking.

K. VIJAYAKUMAR, M.E.,
MIDHUN CONSTRUCTION
No.5/60 Arur South, Valayapatti,
Namakkal-637 020
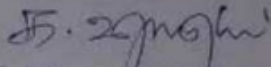
Er.K.VIJAYAKUMAR,M.E
Cell : +91 9943351257

MIDHUN CONSTRUCTION

- Licensed Building Surveyor
- Consulting Civil Engineer
- Building Contractor

No.5/60 Arur South
Alampatti,Valayapatti(via)
Namakkal -637020

TO WHOMSOEVER IT MAY CONCERN

We here write this letter to Mr.S.AVINASH have quoting that we quoting that we observed your Performance during the intership with organization for the past 30 days from month of November 2020. During your tenure with us we find you sincere and hardworking

K. VIJAYAKUMAR, M.E.,
MIDHUN CONSTRUCTION
No.5/60 Arur South, Valayapatti,
Namakkal-637 020

SRI NARASIMHA CONSTRUCTION'S

★

★ (ENGINEERS & CONTRACTORS) ★

249, Sri Palaniandavar Nagar - 2, Kuzhikadu Thottam, Sirupuluvapatti (Po), TIRUPUR - 641 603.
Tel : 0421 - 2481976 Mob : 98422 90715, 99655 90715 E-mail : gnsimha2010@gmail.com

Date : 27.11.2020

This is to certified that Ms. Anjana Mohan of Reg No. 612317103002 studying Final year B.E.Civil Engineering at Sengunthar Engineering College , Tiruchengode, has undergone industrial training in our construction . In training period, student learned about reinforcement details, concreting work in site and plan preparation work . During the training period from 27.10.2020 to 26.11.2020, In the training period her performance was good.

Er. V.G. NARASIMMAN. B.E.
SRI NARASIMHA CONSTRUCTION
Engineers & Contractors
249, Palaniandavar Nagar 2, Kuzhi Kadu Thottam,
Sirupuluvapatti (Po), TIRUPUR 641 603.
Ph : 0421 2481976 Call : 98422 90715, 99655 90715

SRI NARASIMHA CONSTRUCTION'S

★ (ENGINEERS & CONTRACTORS) ★

249, Sri Palaniandavar Nagar - 2, Kuzhikadu Thottam, Sirupuluvapatti (Po), TIRUPUR - 641 603.
Tel : 0421 - 2481976 Mob : 98422 90715, 99655 90715 E-mail : gnsimha2010@gmail.com

Date : 27.11.2020

This is to certified that Mr. Bala Subramanian . S of Reg No. 612317103004 studying Final year B.E.Civil Engineering at Sengunthar Engineering College , Tiruchengode, has undergone industrial training in our construction . In training period, student learned about reinforcement details, concreting work in site and plan preparation work . During the training period from 27.10.2020 to 26.11.2020, In the training period his performance was good.

Er. V. G. NARASIMMAN. B.E.,
SRI NARASIMHA CONSTRUCTION
Engineers & Contractors
249, Palaniandavar Nagar 2, Kuzhi Kadu Thottam,
Sirupuluvapatti (Po), TIRUPUR - 641 603.
PH : 0421 2481976 Cell : 98422 90715, 99655 90715

MIDHUN CONSTRUCTION

> Licensed Building Surveyor
> Consulting Civil Engineer
> Building Contractor

No.5/60 Arur South
Alampatti,Valayapatti(via)
Namakkal 637020

TO WHOMSOEVER IT MAY CONCERN

We here write this letter to Mr.A.DEEPAK have quoting that we quoting that we observed your Performance during the intership with organization for the past 30 days from month of November 2020. During your tenure with us we find you sincere and hardworking

K. VIJAYAKUMAR, M.E.,
MIDHUN CONSTRUCTION
No.5/60 Arur South, Valayapatti,
Namakkal-637 020

SRI NARASIMHA CONSTRUCTION'S

★ (ENGINEERS & CONTRACTORS) ★

249, Sri Palaniandavar Nagar - 2, Kuzhikadu Thottam, Sirupuluvapatti (Po), TIRUPUR - 641 603.
Tel : 0421 - 2481976 Mob : 98422 90715, 99655 90715 E-mail : gnsimha2010@gmail.com

Date : 27. 11. 2020

This is to certified that Mr. JamunaBharathi .M
of Reg No. 612317103006 studying Final year
B.E.Civil Engineering at Sengunthar Engineering
College , Tiruchengode, has undergone industrial
training in our construction . In training period,
student learned about reinforcement details,
concreting work in site and plan preparation work .
During the training period from 27.10.2020 to
26.11.2020, In the training period his performance
was good.

Er. V.G. NARASIMMAN. B.E.
SRI NARASIMHA CONSTRUCTION
Engineers & Contractors
249, Palaniandavar Nagar 2, Kuzhi Kadu Thottam,
Sirupuluvapatti IPo), TIRUPUR - 641 603.
Ph 0421 2481976 Call : 98422 90715, 99655 90715
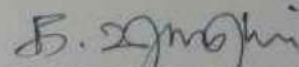
Er.K.VIJAYAKUMAR,M.E

Cell : +91 9943351257

MIDHUN CONSTRUCTION

- Licensed Building Surveyor
- Consulting Civil Engineer
- Building Contractor

No.5/60 Arur South
Alampatti,Valayapatti(via)
Namakkal 637020

TO WHOMSOEVER IT MAY CONCERN

We here write this letter to Mr.K.MAITHEESWARAN have quoting that we quoting that we observed your Performance during the intership with organization for the past 30 days from month of November 2020. During your tenure with us we find you sincere and hardworking

K. VIJAYAKUMAR, M.E.,
MIDHUN CONSTRUCTION
No.5/60 Arur South, Valayapatti,
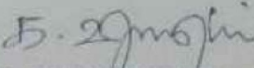Namakkal-637 020

Er K VIJAYAKUMAR, M.E
Cell : + 91 9643351257

MIDHUN CONSTRUCTION

➤ Licensed Building Surveyor
➤ Consulting Civil Engineer
➤ Building Contractor

No.5/60 Arur South
Alampatti,Valayapatti(via)
Narnakkal -637020

TO WHOMSOEVER IT MAY CONCERN

We here write this letter to Mr.C.NAVEENBALA have quoting that we quoting that we observed your Performance during the intership with organization for the past 30 days from month of November 2020. During your tenure with us we find you sincere and hardworking

K. VIJAYAKUMAR, M.E.,
MIDHUN CONSTRUCTION
No.5/60 Arur South, Valayapatti,
Namakkal-637 020

SRI NARASIMHA CONSTRUCTION'S

★

★ (ENGINEERS & CONTRACTORS) ★

249, Sri Palaniandavar Nagar - 2, Kuzhikadu Thottam, Sirupuluvapatti (Po), TIRUPUR - 641 603.
Tel : 0421 - 2481976 Mob : 98422 90715, 99655 90715 E-mail : gnsimha2010@gmail.com

Date : 9.7. 11. 2020

This is to certified that Ms. PremaNandhini . N of Reg No. 612317103011 studying Final year B.E.Civil Engineering at Sengunthar Engineering College , Tiruchengode, has undergone industrial training in our construction .In training period, student learned about reinforcement details, concreting work in site and plan preparation work . During the training period from 27.10.2020 to 26.11.2020, In the training period her performance was good.

Er. V.G. NARASIMMAN. B.E.
SRI NARASIMHA CONSTRUCTION
Engineers & Contractors
249. Palaniandavar Nagar 2, Kuzhi Kadu Thottam,
Sirupuluvapatti (Po), TIRUPUR - 641 603.
PH : 0421 - 2481976 Cell : 98422 90715, 99655 90715

Date : 27. 11. 2020

This is to certified that Mr. RamKumar . V of   Reg No. 612317103012 studying   Final year B.E.Civil Engineering at Sengunthar Engineering College , Tiruchengode, has undergone industrial training in our construction . In training period, student learned about reinforcement details, concreting work in site and plan preparation work . During the training period from 27.10.2020 to 26.11.2020, In the training period his performance was good.

Er. V. G. NARASIMMAN, B.E.
SRI NARASIMHA CONSTRUCTION
Engineers & Contractors
249, Palaniandavar Nagar 2, Kuzhi Kadu Thottam,
Sirupuluvapatti (Po), TIRUPUR - 641 603.
PH : 0421 - 2481976 Cell : 98422 90715, 99655 90715

SRI NARASIMHA CONSTRUCTION'S

★ (ENGINEERS & CONTRACTORS) ★

249, Sri Palaniandavar Nagar - 2, Kuzhikadu Thottam, Sirupuluvapatti (Po), TIRUPUR - 641 603.
Tel : 0421 - 2481976 Mob : 98422 90715, 99655 90715 E-mail : gnsimha2010@gmail.com

Date : 27. 11. 2020

This is to certified that Mr. Thaththathirian . S
of Reg No. 612317103014 studying Final year
B.E.Civil Engineering at Sengunthar Engineering
College , Tiruchengode, has undergone industrial
training in our construction . In training period,
student learned about reinforcement details,
concreting work in site and plan preparation work .
During the training period from 27.10.2020 to
26.11.2020, In the training period his performance
was good.

SRI NARASIMHA CONSTRUCTION'S

★ (ENGINEERS & CONTRACTORS) ★

249, Sri Palaniandavar Nagar - 2, Kuzhikadu Thottam, Sirupuluvapatti (Po), TIRUPUR - 641 603,
Tel : 0421 - 2481976 Mob : 98422 90715, 99655 90715 E-mail : gnsimha2010@gmail.com

Date : 27 . 11 . 2020

This is to certified that Ms. Vathsaladevi . M of Reg No. 612317103015 studying Final year B.E.Civil Engineering at Sengunthar Engineering College , Tiruchengode, has undergone industrial training in our construction . In training period, student learned about reinforcement details, concreting work in site and plan preparation work . During the training period from 27.10.2020 to 26.11.2020, In the training period her performance was good.

Er. J.G. NARASIMMAN. B.E.,
SRI NARASIMHA CONSTRUCTION
Engineers & Contractors
249, Palaniandavar Nagar - 2, Kuzhi Kadu Thottam,
Sirupuluvapatti (Po), TIRUPUR 641 603.
PH : 0421 2481976 Cell : 98422 90715, 99655 90715
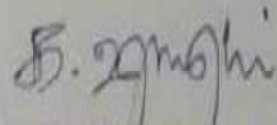
Er K.VIJAYAKUMAR, M.E
Cell : +91 9943951257

MIDHUN CONSTRUCTION

- Licensed Building Surveyor
- Consulting Civil Engineer
- Building Contractor

No.5/60 Arur South
Alampatti, Valayapatti(via)
Namakkal 637020

TO WHOMSOEVER IT MAY CONCERN

We here write this letter to Mr.S.ARAVINDAN have quoting that we quoting that we observed your Performance during the intership with organization for the past 30 days from month of November 2020. During your tenure with us we find you sincere and hardworking

K. VIJAYAKUMAR, M.E.,
MIDHUN CONSTRUCTION
No.5/60 Arur South, Valayapatti,
Namakkal-637 020

Date : 27. 11. 2020

This is to certified that Mr. Logesh . K of   Reg No. 612317103302 studying   Final year B.E.Civil Engineering at Sengunthar Engineering College , Tiruchengode, has undergone industrial training in our construction . In training period, student learned about reinforcement details, concreting work in site and plan preparation work . During the training period from 27.10.2020 to 26.11.2020, In the training period his performance was good.

Er. V.G. NARASIMMAN. B.E.,
SRI NARASIMHA CONSTRUCTION
Engineers & Contractors
249, Palaniandavar Nagar 2, Kuzhi Kadu Thottam,
Sirupuluvapatti (Po), TIRUPUR - 641 603.
Ph : 3421 2481976 Cell : 98422 90715, 99655 90715

MIDHUN CONSTRUCTION

TO WHOMSOEVER IT MAY CONCERN

We here write this letter to Mr.S.YOGARAJ have quoting that we quoting that we observed your Performance during the intership with organization for the past 30 days from month of November 2020. During your tenure with us we find you sincere and hardworking

K. VIJAYAKUMAR, M.E.,
MIDHUN CONSTRUCTION
No.5/60 Arur South, Valayapatti,
Namakkal-637 020

Er.K.VIJAYAKUMAR,M.E
Cell: +91 9943351257

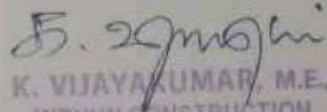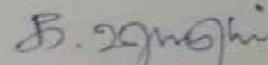# MIDHUN CONSTRUCTION

➢ Licensed Building Surveyor
➢ Consulting Civil Engineer
➢ Building Contractor

No.5/60 Arur South
Alampatti,Valayapatti(via)
Namakkal-637020

TO WHOMSOEVER IT MAY CONCERN

We here write this letter to Mr.B.VISHAL have quoting that we quoting that we observed your Performance during the intership with organization for the past 30 days from month of November 2020. During your tenure with us we find you sincere and hardworking

K. VIJAYAKUMAR, M.E.,
MIDHUN CONSTRUCTION
No.5/60 Arur South, Valayapatti,
Namakkal-637 020

TO WHOM SO EVER IT MAY CONCERN

This is to inform that Mrs. BABY SHALINI K (201952003) has doing her final year M.E. form SENGUNTHAR ENGINEERING COLLEGE, TIRUCHENGODE, had undergone In Plant Training in period of 18.01.2021 to 30.01.2021 at Mr. Prabakaran Residence at Karamadai, Mr.Periyasami Residence at Salem, Developed by NNP Engineering and Architect Salem & Coimbatore. She had hands on experience at site in various Construction activities with guidance from the Engineer in charge.

She had submitted a project report based on his observation at site.

We appreciate her interest in learning and wish him for her success.
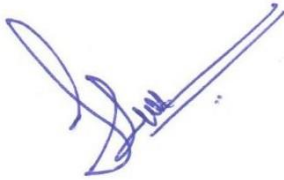
Date: 30/01/2021

TO WHOMSOEVER IT MAY CONCERNS

This is to certify that **Mr.ASLAHUDHEEN.T** S/o Mr.Haris T, has been worked as "InternshipTrainee"from18/01/2021to30/01/2021inourCompany.Duringthetenure of his internship we found him hardworking, trustworthy and always eager to seek and accept new ideas anddevelopments.

We wish him all success in his future endeavor.

HR Manager

THE VIP CONSTRUCTION
5/34, A.Pudur, Andankoil (East) KARUR - 639 002.

Date : 15.03.2021

TO WHOMSOEVER IT MAY CONCERN

We hereby write this letter to **Mr.SASIKANTH R** quoting that we have observed your performance during the internship with our organization for 12 days from (18-01-2021 to 30-01-2021). During your tenure with us we found you sincere and hardworking.

For THE VIP CONSTRUCTION

Proprietor

VIP

THE VIP CONSTRUCTION

5/34, A.Pudur, Andankoil (East) KARUR - 639 002.

Date : 15.03.2021

TO WHOMSOEVER IT MAY CONCERN

We hereby write this letter to **Ms.SINDU K R** quoting that we have observed your performance during the internship with our organization for 12 days from (18-01-2021 to 30-01-2021). During your tenure with us we found you sincere and hardworking.

For THE VIP CONSTRUCTION

Proprietor

THE VIP CONSTRUCTION

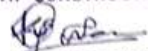5/34, A.Pudur, Andankoil (East) KARUR - 639 002.

Date : 15. 0 3. 2o 2 1

TO WHOMSOEVER IT MAY CONCERN

We hereby write this letter to **Mrs.SOWMIYA R** quoting that we have observed your performance during the internship with our organization for 12 days from (18-01-2021 to 30-01-2021). During your tenure with us we found you sincere and hardworking.

For THE VIP CONSTRUCTION

Proprietor

VIP

M/s.Ramesh Associates

H.O. : 13/1-10, Pudusampalli,
Raman Nagar Post, Mettur Dam,
Salem Dt - 636 403. Ph : 04298 231145
Email : rameshassociates2005@gmail.com
website : www.rksolarpower.com

B.O. : A-17, Lakshmi Sundaram Appartments,
Samattipuram Main Road, Kalavasal,
Bye-Pass Road, Madurai - 10.
Ph : 0452 - 4361781

Ref : 2021-03

Date : 01/02/2021.

Certificate of Internship

Dear Mr. WIPROTHARAN T

Welcome to M/s. Ramesh Associates.

This is to certify that **WIPROTHARAN T** has successfully completed his internship from January 18th 2021 to January 31st 2021 internship program with M/s. Ramesh Associates inposition of site supervisor.
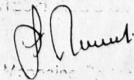
During the internship, wiprotharan T has closely worked with engineering services team.

We are glad to have you as part of our team. We wish wiprotharan T good luck for all future endeavors and look forward to work with his in future.

Warm Regards,

M/s. Ramesh Associates.

For RAMESH ASSOCIATES

RAMALINGAM CONSTRUCTION COMPANY (P) LTD.

ENGINEERING CONTRACTORS

(An ISO 9001-2008 Certified Company)   CIN : U45202TZ2008PTC014881

TIN No   33163003560   CST No   005665 Dt. 8-5-09   IAC [1][5][7] Dt. 7-2-95

Regd. Office : # 252, GANDHIJI ROAD, CHANDRAN STUDIO BUILDING, IInd FLOOR, ERODE - 638 001, TAMILNADU.
Head Office : NR TOWERS, 175/2, SOUTH STATE BANK NAGAR, CHETTIPALAYAM, ERODE - 638 002, TAMILNADU.
Phone : 0424 - 2282389 Fax : 0424 - 2282107 Email : ho@ramalingam.in Website : www.ramalingam.in

Date: 19.04.2021

TO WHOMSOEVER IT MAY CONCERN

This is to certify that **Mr.S.Aravind** S/o V.Subramaniyan has undergone Inplant Training in our company **(Ramalingam Construction Company (P) Ltd)** from **05th April 2021 to 17th April 2021**. He learned about planning and site activities.

During his training period, his character is good and appreciates.

We wish all the best in his future endeavours.

With regards,

For **Ramalingam Construction Company (P) Ltd**

N.Balakumar

CEO, RCCL

Authorized Signatory

R.O.: No. 534, Anna Salai, East Coast Centre (Fifth Floor), Teynampet, Chennai - 600 018
☎ : 044-24333144, 24333155 Fax : 044-42133 Email : mro@ramalingam.in
B.O.: No.705, J-Towers, Binnyston Garden, KP Agraharam PO, Magadi Main Road, Bangalore - 560 023
☎ : 080-23132789, 23134255 Fax : 23130882 Email : karo@ramalingam.in

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TO WHOM IT MAY CONCERN

This is to certify that Mr. Binay Chettri, a trainee Civil Engineer, has undergone Practical Training for a short duration from 5th April 2021 to 17th April 2021 within our Department.

He was placed in an under-construction School Building Project for Monsong Higher Secondary School, in which he showed great zeal and interest in his engineering stream.

I wish him all the best in his future endeavours.

(N. Chhetri)
Assistant Engineer
Central Planning Quality Control &
Procurement Engineering Division – II, Darjeeling
Gorkhaland Territorial Administration

DK Construction Pvt.Ltd

Civil Contractors

Thasampalayam, Kambuliyampatti (po.)

Vijayamangalam-638056

Date: 17.04.2021

CERTIFICATE

This is to certify that Ms.S.DHARANI (202052004), studying M.E.,(Structural) at Sengunthar Engineering College-Tiruchengode, has undergone an Inplant Training in our Firm DK Construction Pvt.Ltd. She was trained as a Site engineer for the following period.

The period of Internship was from 05.04.2021 to 17.04.2021. During this period of Internship in our organization, she was immensely involved in learning and her conduct was good.

We wish her all the best for her future endeavor.

Signature

Name & Designation

Er.DEEPAK KUMAR BE.,
DK Construction Pvt.Ltd,
Thasampalayam,
Vijayamangalam-638056.

N. Premkumar 1-St Class Contractor (State)

PWD / NH / HD

144/2 East Street, Venkattaramanapuram

Thamaraikulam (Po), Kallankurichi (Via)

Ariyalur District - 621705

GST No : 33BVDPP8664G1ZA

PAN No. : BVDPP8664G

TIN : 33823622930

2014kumarku@gmail.com

Cell : 97517 29432

To

Mr. ....

Date : ....

Date: 21/04/2021
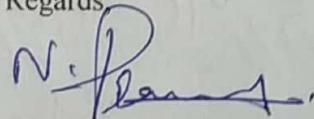
To Whomsoever It May Concern

This is to certify that **Mr. HARIHARAN.S** , Studying **First year** Structural Engineering at

SENGUNTHAR ENGINEERING COLLEGE has done practical training for a period of 14

days from **05.04.2021 to 17.04.2021** at our firm, he has involved in various technical aspects and

site visits.

During this Training period his conduct and character is found good.

We wish her all success in future.

Regards,

PREMKUMAR

DIRECTOR

Date : 20.04.2021.

TO WHOM SO EVER IT MAY CONCERN

We hereby write this letter to Miss.POORANI D quoting that we have observed your performance during the internship with our organization from (05.04.2021 to 17.04.2021) During your tenure with us we found you sincere and hardworking.

We wish her all success.

Managing Director

STANELY HITECH CONSTRUCTION COMPANY (P) LTD

Enthu Technology Solutions
India Pvt Ltd

Infinite Innovations

Quality Leads

This is to certify that Mr/Ms *Priya.V*, *Electronics and Communication Engineering* Department, of *Sengunthar Engineering College* has Successfully Undergone *1 Week* Internship on *IoT* during *10/05/2021* to *14/05/2021*.

Certificate No.: EAS/CERT/ONLINE/IoT/21-22/23

Training Manager
Enthu Technology Solutions India Pvt Ltd

Director
Enthu Technology Solutions India Pvt Ltd

ENTHU TECHNOLOGY SOLUTIONS
INDIA PVT LTD

Quality Leads

This is to certify that Mr/Ms *Srivignesh K*, *Electronics and Communication Engineering* Department, of *Sengunthar Engineering College* has Successfully Undergone *1 Week* Internship on *IoT* during *10/05/2021* to *14/05/2021*.

Certificate No.: EAS/CERT/ONLINE/IoT/21-22/14

Training Manager
ENTHU TECHNOLOGY SOLUTIONS
INDIA PVT LTD

Director
ENTHU TECHNOLOGY SOLUTIONS
INDIA PVT LTD

Date: 30.03.2021

TO WHOM IT MAY CONCERN

This is to certify that **Mr.M.Arunkumar (Reg.No 612317114001)**,B.E Final Year(Mechanical) student of Sengunthar Engineering College, Tiruchengode has completed internship training in Production Department at **Minda Corporation Ltd, Sriperumbudur** under our organization Perfect Industrial Manpower Services for the period from 01.02.2021 to 30.03.2021, During the period of his internship programme with us he was found punctual and hardworking.

For **Perfect Industrial Manpower Services**

Guduvancheri
603 202.

AUTHORIZED SIGNATORY

DATE: 30/03/2021

TO WHOM IT MAY CONCERN

This is to certify that **Mr.S.Arunkumar (Reg.No 612317114002)** B.E Final Year (Mechanical) student of Sengunthar Engineering College, Tiruchengode has completed internship training in production department at **Minda Corporation Ltd.** Sriperumbudur under our organization Perfect Industrial Manpower Services for the period from 01.02.2021 to 30.03.2021. During the period of his internship programme with us he was found punctual and hardworking.

For **Perfect Industrial Manpower Services**

Guduvancheri
603 202.

AUTHORIZED SIGNATORY

Date: 30.03.2021

TO WHOM IT MAY CONCERN

This is to certify that **Mr.A.Chandrakumar (Reg.No 612317114005)**, B.E Final Year(Mechanical) student of Sengunthar Engineering College, Tiruchengode has completed internship training in Production Department at **Minda Corporation Ltd, Sriperumbudur** under our organization Perfect Industrial Manpower Services for the period from 01.02.2021 to 30.03.2021. During the period of his internship programme with us he was found punctual and hardworking.

For **Perfect Industrial Manpower Services**

AUTHORIZED SIGNATORY

Date: 30.03.2021

TO WHOM IT MAY CONCERN

This is to certify that **Mr.R.Duraisamy (Reg.No 612317114008)**,B.E
Final Year(Mechanical) student of Sengunthar Engineering College,
Tiruchengode has completed internship training in Production
Department at **Minda Corporation Ltd, Sriperumbudur** under our
organization Perfect Industrial Manpower Services for the period from
01.02.2021 to 30.03.2021, During the period of his internship
programme with us he was found punctual and hardworking.

For **Perfect Industrial Manpower Services**

AUTHORIZED SIGNATURE

Guduvancheri
603 202

Date: 30.03.2021

TO WHOM IT MAY CONCERN

This is to certify that **Mr.R.Dineshkumar (Reg.No 612317114007)**, B.E Final Year(Mechanical) student of Sengunthar Engineering College, Tiruchengode has completed internship training in Production Department at **Minda Corporation Ltd, Sriperumbudur** under our organization Perfect Industrial Manpower Services for the period from 01.02.2021 to 30.03.2021, During the period of his internship programme with us he was found punctual and hardworking.

For **Perfect Industrial Manpower Services**

AUTHORIZED SIGNATORY

Guduvancheri
603 202.

Date: 30.03.2021

TO WHOM IT MAY CONCERN

This is to certify that **Mr.M.Gokulram (Reg.No 612317114012)**, B.E Final Year(Mechanical) student of Sengunthar Engineering College, Tiruchengode has completed internship training in Production Department at **Minda Corporation Ltd, Sriperumbudur** under our organization Perfect Industrial Manpower Services for the period from 01.02.2021 to 30.03.2021, During the period of his internship programme with us he was found punctual and hardworking.

For **Perfect Industrial Manpower Services**

Guduvancheri
603 202

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TO WHOM IT MAY CONCERN

This is to certify that **Mr.K.Meiyazhagan (Reg.No 612317114021)**,B.E Final Year(Mechanical) student of Sengunthar Engineering College, Tiruchengode has completed internship training in Production Department at **Minda Corporation Ltd, Sriperumbudur** under our organization Perfect Industrial Manpower Services for the period from 01.02.2021 to 30.03.2021, During the period of his internship programme with us he was found punctual and hardworking.

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AUTHORIZED SIGNATORY

Date: 30.03.2021

TO WHOM IT MAY CONCERN

This is to certify that **Mr.V.Surendar(Reg.No 612317114040)**, B.E Final Year(Mechanical) student of Sengunthar Engineering College, Tiruchengode has completed internship training in Production Department at **Minda Corporation Ltd, Sriperumbudur** under our organization Perfect Industrial Manpower Services for the period from 01.02.2021 to 30.03.2021, During the period of his internship programme with us he was found punctual and hardworking.

For **Perfect Industrial Manpower Services**

Guduvancheri
603 202

AUTHORIZED SIGNATORY

LPT.

LAKSHMI PRECISION TOOLS LIMITED

Ref: LPT/HR/Certificate/2020-21

Date: 24.03.2021

TO WHOMSOEVER IT MAY CONCERN

This is to certify that **Mr.K.Pavish (Reg.No 612317114025),** B.E Final Year (Mech) student of Sengunthar Engineering College, Tiruchengode has under gone Internship Training in our organization for the period from **01.02.2021 to 20.03.2021.**

This certificate is being issued for the purpose of his academic attendance.

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24\03\21

M.PALANISAMY
SENIOR MANAGER- HR

Ref: LPT/HR/Certificate/2020-21

Date: 24.03.2021

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This is to certify that **Mr.P.Tamilarasu (Reg.No 612317114041)**, B.E Final Year (Mech) student of Sengunthar Engineering College, Tiruchengode has under gone Internship Training in our organization for the period from **01.02.2021 to 20.03.2021**.

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M.PALANISAMY
SENIOR MANAGER- HR

Ref: LPT/HR/Certificate/2020-21

Date: 24.03.2021

TO WHOMSOEVER IT MAY CONCERN

This is to certify that **Mr.K.Saravanaa (Reg.No 612317114033)**, B.E Final Year (Mech) student of Sengunthar Engineering College, Tiruchengode has under gone Internship Training in our organization for the period from **01.02.2021 to 20.03.2021.**

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M.PALANISAMY
SENIOR MANAGER- HR

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Certificate No.: EAS/CERT/ONLINE/IoT/21-22/25

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DATE: 19TH AUG, 2021

PLACE: ERODE

SUB: INTERNSHIP LETTER

This is to certify that **Ms. JANAKI.M,** has undergone intensive Internship training on **WEB DEVELOPMENT** at OCEAN SOFTWARES unit of MACBRO Technology (I) pvt.ltd, R&D-INDIA and successfully has completed 3 Months Full Time **(From 10TH MAY,2021 to 15TH AUG, 2021)**

During the period of her training program with us, we found her punctual, hardworking and inquisitive.

We wish him all the best in his future endeavors.

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For MACBRO TECHNOLOGY INDIA PRIVATE LIMITED

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Authorized Signatory,

Training Head.

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Certificate No.: *EAS/CERT/ONLINE/IoT/21-22/16*

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EnThu Technology Solutions India Pvt Ltd

Future Intelligents

TO WHOMSOEVER IT MAY CONCERN

This is to certify that Mr. **Ashok kumar J**, an MBA student with HR specialization from **Sengunthar Engineering College (Autonomous) Tiruchengode, Tamil Nadu** affiliated to **Anna University** has completed internship program at our company from **3rd August 2020** to **02nd September 2020** about the topic **Internal Training and Development**. During this tenure, we found him sincere, hardworking and a keen learner. We wish him all the best for his future endeavors.

For Future Intelligents

Proprietor

. (Santhosh Babu Janakiaman)

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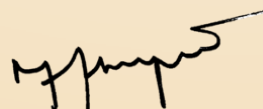
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Date

Ashok Kumar Manimaran,

Founder - Unitieup

Sajeeth Kumar,

Founder CEO - REYNLAB

Student Academic Management System using Android Application

M.A.Mohamed Suhail[1], S.Naveena[2], S.Prasannabalaji[3], C.Rachana[4], P.Ponmurugan[5], C.Venkatesh[6]

[1,2,3,4]*UG Student, Dept. of EEE, Sri Krishna College of Technology, Coimbatore*

[5]*Associate Professor, Dept. of EEE, Sri Krishna College of Technology, Coimbatore*

[6]*Professor and Principal, Sengunthar Engineering College, Tiruchengode*

Abstract

Technology has changed our daily life routine and living style. College and school students require new technology that supports smart phone to get information and notifications related to examination, placement, Attendance (Leave/OD), transportation, etc. The online tools like Google classroom facilitate Students and teachers to access lecture notes, assignments, quiz, etc. But Google classroom tool does not support details like accessing information about their attendance percentage, requesting permission for leave/OD, no due, semester results and examination details. Maintaining the academic records becomes a key concern in an institution since the authorities spends adequate time to maintain it and students spend most of the time for requesting leave/OD, no due, etc. The traditional way needs physical presence. This project provides a mobile app which facilitates easy access of all academic related access for students and teachers and eradicates the usage of paper.

Keywords*: Mobile Application, MYSQL Database, PHP, Student Management System, Web Server.*

I. Introduction

Application of Information Technology has been in the lead of modern education and management. While online courses have become a trend, not only online learners but tutors and management are also making the best use of Internet. Universities and colleges of some countries around the world have adopted the practice of integrating interactive mobile applications into campus management systems (CMS). Compared with traditional approach, CMS optimized with effective mobile application can improve productivity and ease the load of teachers, students andmanagement.

Now a days, students and teachers can access the information through internet. In some cases academic information such as assignments has some deadlines; therefore, it must be

Automation of Commercial & Residential buildings using IoT

S.Mathesh Kumar[1], S.M.Mohamed Suhail[2], N.Pradheep[3], V.Preethikadevi[4], P.Ponmurugan[5], C.Venkatesh[6]

1,2,3,4UG Student, Dept. of EEE, Sri Krishna College of Technology, Coimbatore

5Associate Professor, Dept. of EEE, Sri Krishna College of Technology, Coimbatore

6Professor and Principal, Sengunthar Engineering College, Tiruchengode

Abstract

Power consumption of electrical appliances when not utilized is a serious issue in all organizations and institutions. Most of the organizations have manual control to operate and monitor the electrical appliances. By this practice, the electrical appliances like lights, fans, computers, etc are left ON when they are not in use in office rooms and even in restrooms. This led to unnecessary power consumption which can be utilized properly if avoided. In this paper, automatic control and monitoring of electrical appliances is done with the use of IoT. For implementing the concept, RFID tags, IR sensors, solenoid locks are utilized for sensing and automating the door lock system. A mobile application is developed to ease the entire process.

***Keywords:** IoT, Wi-Fi, RFID, Sensors, Automation, smart room*

I.   Introduction

In modern society, people spend most of time in their organization. There is no doubt that the organization environment directly affects the working efficiency, so comfort is required inside the organization. On the other hand, the current energy crisis and growing environmental contamination dilemma all over the world especially in developing countries make energy conservation become the new trend of organization buildings. In response to these thorny issues, the smart office system emerges.

A smart organization system usually consists of an embedded automation system, information technology, and automation technology, several controlled objects and corresponding sensors. It should be sensitive to user´s demand, and then analyze it, finally react to it in time. On the other hand, recent researches on smart organization system mainly focus on only one installation e.g. lighting. The automation of technology is achieved through Internet of Things (IoT). Nowadays, we are encircled by lots of IoT

International Journal of Electronic Devices and Networking

Exploration of finger vein recognition systems

P Gopinath and Dr. R Shivakumar

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Assistant Professor (ECE),
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Abstract
Finger vein recognition is a method that identifies an individual using the finger vein pattern. Finger veins are unique to an individual. The friction ridges which create finger veins are formed while inside the womb and grow proportionally as the baby grows; even identical twins have different finger veins. The era of biometrics has been going on, various authentication algorithms has been proposed for security purpose, as time and technology has improved. In this paper proposes an analysis of various Finger vein recognition systems. Some finger vein techniques are multi-image quality assessment, Deep learning, Back propagation neural network and Adaptive threshold. This paper gives a detailed proposal of the techniques that are used in the proposed systems of finger vein recognition technology and also future enhancement of the system.

Keywords: Biometrics, finger vein, deep learning, neural network, recognition

1. Introduction

Accurate recognition of human identity for security and control is a major issue of concern. Hence automatic authentication systems for control have found application in criminal identification, automated banking, etc. Biometric identification is the study of physiological and behavioural attributes of an individual to overcome security problems. There are several types of biometric techniques available such as finger print, palm print, hand veins, finger veins, palm veins, foot vein, iris, gait, DNA recognition, palates, voice recognition, facial expression, heartbeat, signature, body language, and face shape. The traditional authentication systems like identity card or password can be easily stolen or acquired by unauthorized person. All these traditional authentication systems are gradually replaced by biometric systems like finger prints, iris recognition, palm print and finger vein recognition.

Researchers focus on Finger Vein patterns as it is associated within body and hence it is difficult to spoof or forge the same under normal processing environment. The vein pattern is generally captured by the near-infrared light, as the light can be intensively absorbed by the haemoglobin in the vein but easily transmit other finger tissue. The resulting vein image appears darker than the other regions of the finger, because only the blood vessels absorb the rays. The capturing device can be a compact type, and easily installed in public and private places without any access to direct sunlight. A finger-vein identification system offers a guaranteed recognition process that is safe, simple and highly accurate. Fig.1 illustrated block diagram of finger vein recognition process.
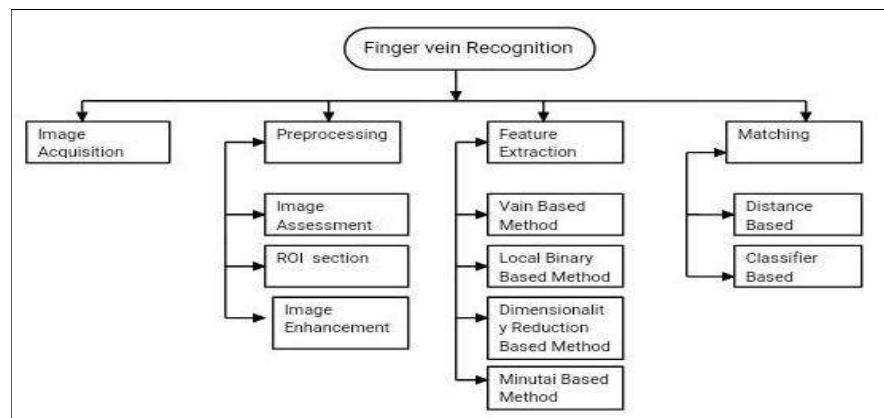
Fig 1: Block diagram of finger vein recognition

Corresponding Author:
P Gopinath
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Developing Optimal Spectrum Sharing Protocol and Optimal Linear Precoding for Multi-Carrier Code-Division Multiple Access Using Massive Multiple Input Multiple Output in 5G Wireless Networks

- A. Vijay &
- K. Umadevi

- **119** Accesses
- Metricsdetails

Abstract

Currently, wireless systems are moving towards implementing fifth-generation (5G) wireless networks to compensate for intense growth and surpass demands concerning future wireless services. Consequently, massive multiple-input multiple-output (mMIMO) and multi-carrier code-division multiple access (MC-CDMA) have received considerable attention for addressing the prevailing constraints in developing 5G mobile networks. To meet requirements related to future wireless services such as achieving elevated data rates, avoiding multi-user co-channel interference (CCI), and satisfying other network limitations, implementing MC-CDMA with mMIMO has become mandatory. In this study, a detailed literature review is conducted on research for implementing MC-CDMA and mMIMO, and it is determined that the utilised methods fail to effectively solve previous issues. Thus, this paper proposes combining an optimal spectrum sharing (OSS) protocol and optimal linear precoding (OLP) with MC-CDMA and mMIMO. The OSS protocol

RECENT DEVELOPMENTS IN TERAHERTZ COMMUNICATION
AND APPLICATION TO BEYOND-5G NETWORKS

Terahertz (THz) Communication[1] can support far greater bandwidths than millimetre-wave (mmWave)[2] technology and is seen as attractive for implementations of "Beyond-5G networks". This article provides an overview of current research to increase range and enhance data rates in THz communication networks, improvements in antenna array design through the use of Ultra-Massive Multiple-Input Multiple-Output (UM-MIMO) technology and potential major applications.

Moore's Law states that with technological development, the speed and capacity of a computing device doubles every two years. As a consequence, digital technology is constantly upgraded with an ever-increasing volume of data being processed. Such data must be communicated across the globe inevitably compromising the processing speed of personal and professional digital processing devices.

Miniwatts Marketing Group have released statistics on world internet usage and population up to the end of 2019 which show that 4.5 billion people across the world rely on internet usage. This is over 10 times the number of internet users in 2000. To meet this increasing demand for ever higher data rates, it is necessary to exploit additional spectralband-width and develop enhanced technologies.

In the field of short-range communication, the millimetre wave (mmWave) and Terahertz (THz) bands are attractive for the support of future wireless networks because of the huge spectral bandwidth which ranges from 10 GHz for the mmWave to several hundred GHz for the THz band. With adequate technology development, certain applications to meet the demand for higher data rates could be addressed effectively

A. VIJAY, K. UMADEVI
Meeting global data demand

using the THz band as it has a much greater capacity to mmWave technology.

This article reviews key characteristics of THz communication, specialist antenna design techniques to improve range such as

[1] The wavelength of signals ranging from 1μm to 1mm are referred to as THz bands, on which frequencies greater than proposed 5G networks can be transmitted.
[2] Signals whose wavelength ranges from 1 mm to 10 mm are called mmWave, and on these, higher frequencies can be transmitted than on current 4G networks.
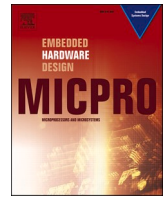
An efficient wideband low noise amplifier (WLNA) using advanced design system based industrial micro strip antenna

A. Yogeshwaran [a],[*], K. Umadevi [b]

[a] *Assistant Professor, Department of Electronics and Communication Engineering, Dhanalakshmi Srinivasan Engineering College, Perambalur, Tamilnadu, India*
[b] *Professor And Dean Department of Electronics and Communication Engineering, Sengunthar Engineering College, Tiruchengode, Namakkal, Tamilnadu, India*

ARTICLE INFO

ABSTRACT

An efficient architecture to design low noise amplifier methods aimed at reducing the radar cross-section (RCS) under the X - and Y-polarizations with incident waves, the characteristics of radiation has been analyzed. The goal is to carry out the Polarization Conversion Meta Material (PCM) implementation and passive cancelation policy. The Low-Noise Amplifier (LNA) supports the use of multi-stable applications being the front end of any micro strip antenna with the need for a multiband receiver is very high in technology development. This LNA design requires the synchronization of a single device frequency of a different device. So researchers work on developing a Wideband Low noise Amplifier (WLNA) with the wideband receiver. An LNA radio receiver from the mainstream is that the subsequent stages of the signal are lossless and the low noise rate has the highest gain. LNA design is an important task for the proper management of trade between all parameters of it, including gain, noise, stability, and power consumption. Advanced Design System (ADS) software is used to design and simulated the proposed micro strip antenna with LNA. The proposed micro strip antenna is to be fabricated using the Fr4 substrate and investigated by simulation and measurements like radiation patterns, S-parameters and return loss by using Advanced Design System software to improve the existing System.

1. Introduction

Satellite communications for military purposes not only for contact is a great contribution. In order to play the main role that broadband and successive generations of internet services network, it will provide more information. Satellite receiver systems require a low noise amplification, which is much smaller and has been placed right of the antenna to increase signals. The transmitting signals have been one of the key factors in the receiver's quality factor, due to the absence of the noise rate from the first amplifier to the amplitude of the receiver. The purpose of this work has designed a wideband LNA with a low noise figure to get as possible high. Two-stage LNA design to gain the advantage of the need for a system with no noise bandwidth. The first level will be to optimize the noise of figure, bandwidth and overall gain are increased in the second stage.

Due to the increased use of the patch antenna in wireless communication, it has a wide range of configurations [1]. The radar device is used to measure function and/or movement of objects using ultra-high frequency (UHF) or radiofrequency (RF) for spectrum microwave segmentation function. In some frequencies, precipitations are used to monitor the storm systems by radar and electromagnetic fields are reflected. It is widely used in marine infiltration in specific maps of air traffic control, aeronautical guide, and radar systems used in addition to specific maps. The most surface of the Earth's surface is highly detailed by North Atlantic Space Administration (NASA). Because the radio frequency zone gets reflected by it. In a global positioning system, high permittivity molecular material has been used in Micro patch antenna containing the base of Low noise amplifier (LNA) [2] and the basic functional block diagram of micro strip antenna is shown in Fig. 1

A Low noise amplifier (LNA) has been one of the main components of the wireless transceiver circuit and it plays a very significant role in determining the receiver's capacity. Wideband LNA is based on a wavelength based on more than one or more of the same operating characteristics over wideband applications [3]. Wideband LNA increases the number of noise in receiver positions for wake up after a thoroughly widespread increase and the frequency of the radio receiver increases and reduces the noise figure. LNA designing for frequency widespread so this signal can be effectively withdrawn in later stages and thereby increasing the benefit of the low noise effect as possible.

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ORIGINAL RESEARCH

An optimized distributed secure routing protocol using dynamic rate aware classified key for improving network security in wireless sensor network

S. S. Sathya[1] · K. Umadevi[2]

Abstract

To transmit information over the industrial network today, you need data in a secure way to make it a high security root. Routing security issues in the wireless web network have been well studied. The problem of security in routing in wireless mesh networks (WMN) has been well studied. There exist numerous techniques to resolve this issue but differ and suffer to achieve higher security performance in WMN. To resolve this issue, a dynamic rate aware classified key distributional secure routing (DRCKDS) is proposed. In this approach, the sensor nodes maintain various factors related to the neighbor like energy, transmission involvement, rate of success and so on. According to this, available routes are identified to reach the destination from the source. For each route identified, the method computes the secure route measure (SRM). According to the SRM value, an optimal route is selected for the transmission. Similarly, the method generates different secret keys and distributes them through the transmission route selected. The same key has been used to encrypt the data and forward the packet through the route selected. The method improves the security performance and improves the quality of service of WMN.

1 Introduction

The wireless web network is a set of sensor nodes or wireless nodes that stop in the form of a geo-location network. Each node has a limited transmission range and has neighbors with the same configurations. Unlike earlier wireless mesh networks (WMN), the modern mesh networks have been changed a lot and it has been used in different areas. For example, it has been used in the metropolitan network, enterprises, community networks, and hybrid mesh networks. Wherever it has been used, the advantage of a mesh network is its rapid deployment, extending the coverage and so on. In WMN, the nodes involve in cooperative transmission to perform any data transmission.

The recent advances in wireless communication have emerged the WMN. Human society highly depending on the communication facilities as they access various network services available through mobile phones, PDAs, laptops and so on. They access different services through their device which requires higher bandwidth conditions and the data rate should be higher. As they access different multimedia contents, it requires higher data rate conditions and streaming facilities. This encourages the designers to come up with the most sophisticated designs.

The architecture of backbone WMN is presented in Fig. 1, which has mesh routers distributed at different locations between various networks. In this kind of network, security plays a vital role, as the data transmission is performed through several other networks and devices. To handle this issue, and an efficient class-based distribution key scheme is presented in this paper.

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ORIGINAL RESEARCH

Protecting user profile based on attribute-based encryption using multilevel access security by restricting unauthorization in the cloud environment

V. Vijayakumar[1] · **K. Umadevi**[2]

Abstract

Data security in centralized storage needs advancement in privacy standards because of all of the cloud. The data security in the cloud has been well provided by security industries like cloud network security, data center security, distributed security and soon, also their exist numerous techniques to preserve the privacy of cloud users. The earlier methods enforce user privacy by restricting the malicious access from various users. Data authentication is provable access to keep privacy among other standards. However, the privacy of cloud users has been breached on several occasions. To improve cloud security and enforce efficient privacy preservation, a multi-level micro access restriction algorithm has been presented in this paper. The cloud data has been indexed in multiple levels, the data present in each level has been restricted using the profile and set if encryption standards. The user request has been evaluated for its trusted access according to the access grant present in profile data. Similarly, the cloud data has been encrypted with the user key and the key belongs to the data owner. The method estimates micro access trust weight (MATW), which has been used to restrict the user from malicious access and to preserve user privacy. The method improves the performance of cloud security and introduces higher privacy preservation accuracy.

Keywords Data clouds · Cloud security · Industry security standard · Privacy preservation · ABE · User profiles · MATW

1 Introduction

The cloud security protection had a multi-authentication system based on the user profile. The increasing space complexity of Industrial-organizational data challenges them in maintaining the data their servers. Also, the cost of data servers challenges the affordability of organizations. This encourages organizations to approach cloud service providers. The cloud environment comes with various resources and services which support the access of resources. The cloud service provider (CSP) provides several services to access various data present in the cloud. The cloud user would maintain their data which can be accessed by other users also. But the level of industrial access access would differ between different users. A specific user would access a subset of data to which he has been granted access. Even social media maintains the user data in the cloud, which has been shared between different users. The user itself can specify different access policies, which restricts various users in access to his data.

Any user data present in the cloud would have both personal and general information. Personal information cannot be shared between all the users and cannot be given access to all of them. It is necessary to preserve private information from different other users. Privacy preservation is the process of restricting the access of private information from untrusted unauthorized users. It has been performed in different methods like policy-based, profile based and so on. For example consider the medical record of different patients, it contains numerous information from personal, professional, diagnosis results, treatment, and so on. From these information, the disease and treatment information are more sensitive which should not be exposed to others. The

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Design of Reconfigurable Monopole Antenna for Cognitive Radio Application

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Abstract

A compact frequency reconfigurable UWB antenna for cognitive radio application is presented in this paper. The proposed structure has a simple design and easy construction. The antenna is made reconfigurable, by enabling or disabling the parasitic element coplanar to the main radiator. The resonance frequency of the proposed antenna operates in two configurations which is achieved by employing three ideal switches. This antenna is operational in the practically whole UWB spectrum. Antenna parameters in terms of current distribution, return loss and radiation pattern are also presented. Experimental results successfully validate the proposed design methodology in this work. The simulations were carried out in the Agilent Advance Design System (ADS).

Keywords—Microstrip antenna, cognitive radio, reconfigurable, wideband antenna, UWB,

I. INTRODUCTION

Antenna is an interface between transmitter and free space for radiation of electromagnetic energy. Shape and structure of antenna defines the radiation characteristic and hence interface efficiency [1]. Various popular antennas include dipole, bow tie and horn etc, usually there are various parametric constraints on antennas for radiation. These include size, shape and feeding structure etc [2].

In the last decade the ultra wideband (UWB) communication has been in the focus of various studies relating to mobile communication. As per FCC regulations, they use license exempt RF spectrum in the range from 3.1 GHz 10.6 GHz [3]. Moreover the expanded enthusiasm for these systems is because of their points of interest, for example, high data rates, low operating costs, low power spectral density, ease of antenna construction and wider bandwidth [4]. As a result, a significant number of researchers have dedicated their urge to the improvement of the UWB antenna. With the introduction of LTE/LTE-advance mobile communication standards the cognitive radio communication systems have begun to obtain a lot of consideration. Numerous designs and architectures have developed. To use the same antenna for both detecting and communication by reconfiguring (UWB) sensing antenna pass on into various frequency band, is one of the strategies to use reconfigurable antenna in cognitive radio devices [5].
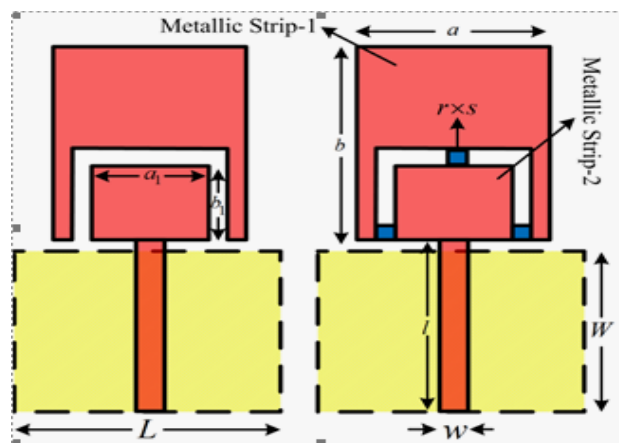

Fig. 1.Reconfigurable UWB Monopole Antenna.

DESIGN OF KU BAND PATCH ANTENNA FOR SATELLITE APPLICATIONS

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Abstract—**In proposed antenna, a square patch with pi (π) shape reflector antenna was designed using ARLON AD 1000 (tm) substrate. This antenna is used to receive the signal of ku band frequencies. The dimension of patch antenna is 4.6×4.6mm and pi (π) shape meander line radiator is 6×0.5mm, 0.5×6mm and 0.5×6mm. The design and simulation of the antenna is done by using ANSYS HFSS software tool. The resultant antenna return losses are -15dB at 16.8GHz and -23dB at 18.2GHz. The measured gain is 1.2dB at 16.8GHz, 18.2GHz and the corresponding efficiency is 78.38% respectively. The proposed antenna has the potential application in live broadcasting, downlink naval satellite applications.**

Index Terms— **Square patch, Pi (π) shape reflector, Live broadcasting, Downlink naval satellite application**

I. INTRODUCTION

The systematic investigation involves patch antenna with *pi (π)* shape reflector designed for ku (Kurtz - under) band. This design was introduced for the Live broadcasting and Downlink naval satellite applications. The patch antenna is a low profile radio antenna mounted on the flat surface, is mainly practical at microwave frequencies at which its wavelengths are short. PCB is widely used as portable wireless devices because of easy fabrication. Microstrip antennas are named because of multiple patches on the same substrate can be used to make high gain phased arrays antennas.

The demand of developing RF & microwave communication equipment, the research of antenna focuses on "how to reduce the size of antennas while maintaining higher radiation efficiency". Meanwhile, with the improvement of small scale integrated circuits, the size of communications equipment is also getting smaller and smaller.

Reflector antennas are widely used to modify the radiation pattern of a radiating element, reflectors are used for redirecting radio frequency (RF) energy. For example, plain sheet reflector of large dimension eliminates the backward radiation. Several types of reflectors are active corner reflector, passive corner reflector, parabolic reflector, elliptical reflector, hyperbolic reflector, circular reflector and thin reflector. To reduce diffraction the reflector should have a rolled edge with radius of curvature at least λ/4 at the longest wavelength of operation.

A live broadcast generally refers media broadcast have no significant delay. The most common seen media example of the live transmission is an news broadcasting, live radio, live television, internet television, internet radio and live blogging are the important live broadcasting applications where the proposed antenna was operated.

An satellite navigation is a system that uses antenna to provide autonomous GPS and allows small electronic transceiver antenna to calculate the current local time to high precision, which allows time synchronisation and the time signals transmitted along a LOS by radio from satellites. The system can be used for providing position, navigation for tracking the position using antenna. Transmission and reception operation are done independently in Satnav systems, though these technologies can enhance the usefulness in the positioning information generated. Satnav system provides enhanced accuracy and integrity monitoring.

Performance Evaluation of speed control using Fuzzy dependent Genetic Algorithm in PMSM

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Abstract. This paper examines the role of the tuning algorithm for speed regulation of the Permanent Magnet Synchronous Motor (PMSM). The picks of the PID regulator normally provide adequate results in the application of a low-force drive, but for high-power application drives, a self PID controller doesn't provide any acceptable performance. Such applications require high-precision, superior and adaptable speed regulators and effectiveness in the cycle and execution of the plan. High-performance applications need some capacity based on High-speed high-reliability regulators, adaptability with maximum torque coefficient, higher rating capacity with minimum ripple torque. So many speed controlling mechanisms are available in the quick world, and these methods vary from the choice of regulator used in the PMSM to the method of programming/use of equipment. In this paper, generous examination is taken to control the speed of PMSM with three unique specialists, ABC based speed control drive, ANFIS controller of PMSM drive and Genetic algorithm based fuzzy controller. The planned regulators are tried through the mathematical reproductions in the MATLAB Simulink Platform. The examination between the reproduction aftereffects of execution measures are introduced toward the end. Hereditary calculation based Genetic algorithm based fuzzy controller gives some better outcome appropriate for the superior applications.

Keywords: Artificial bee colony; ANFIS; Fuzzy Controller; PID controller; Genetic Algorithm; PMSM, Speed regulation.

1. INTRODUCTION.

The development of attractive materials and power electronics devices has rendered the PMSM drive extremely important in various control applications. The PMSM motor is inherently an asynchronous motor where the field is energized by a durable magnet and a sinusoidal EMF. These motors are sufficient to make torque, near to zero rpm by the usage of permanent magnets. For the comparable force produced by induction motors, they have a more manageable packaging size. This makes PMSM machines successful in all types of special operations (e.g., Electrical vehicles and hybrid electrical vehicles, CNC machines, industry robots, ventilating and air conditioning applications). Nevertheless, PMSM sensitivity is highly susceptible to disturbances of external loads and parametric uncertainties in the system. Some

Design and Analysis of six DOF Robotic Manipulator

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Abstract. The robotic manipulators are nowadays used for many applications in the industries. This project involves the design and analysis of a six DOF manipulator for welding, pick and place application. We developed a robot in SolidWorks and analysed it motion, load withstanding capacity and path traceability. However, design and analysis of a robot involves modelling of it forward and inverse kinematics. We modelled the forward and inverse kinematics by D-H parameters. The proposed model makes it possible to control the manipulator to achieve any reachable position and orientation in an unstructured environment. The inverse kinematics provided many possible combinations of angles for a single end effector position. A GUI was created in MATLAB for studying the forward and inverse kinematics of the robot. It gave results with precision of 0.2 cm. the load analysis also gave the maximum load it can withstand 200 KN without permanent deformation. The approach presented in this work can also be applicable to solve the kinematics problem of other similar kinds of robot manipulators.

Keywords. Robot, Manipulator, MATLAB, kinematics, position.

1. Introduction

Nowadays robots are used in many areas like Industries, Hospitals, Warehouse, Harbours, etc., When it comes to industries mainly robotic manipulators are used extensively. Because it can carry heavy payloads and do work more faster and smarter than humans. These manipulators are introduced into the industries for increasing the productivity and quality of products in a greater extend. The modern commercial robotic systems are very complex. They are integrated with many sensors and actuators which, have many interacting DOF and most of them require user interfaces and programming tools. When it comes to designing a robotic arm first we have to design the mechanical structure and model its kinematics.While modelling the forward and inverse kinematics of a 5 DOF manipulator the singular problem was discussed after the forward kinematics is provided. For any given reachable position and orientation of the end-e ector, the derived inverse kinematics will provide an accurate solution [11]. But inverse kinematics gave many possible positions and it was complex to solve as DOF increases.

   The inverse kinematics solution of general SN(cylindrical robot with dome), CS (cylindrical robot), NR (articulated robot) and CC (selectively compliant assembly robot arm-SCARA, Type 2) robot manipulator belonging to each group mentioned above were provided as examples [8].The inverse kinematics of the P2Arm, which makes it possible to control the arm to any reachable position in an unstructured environment. The strategies developed here could also be useful for solving the inverse

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Patent Search

Invention Title	IOT BASED PERFORMANCE INVESTIGATION SYSTEM FOR DC MOTOR
Publication Number	47/2020
Publication Date	20/11/2020
Publication Type	INA
Application Number	202041049691
Application Filing Date	13/11/2020
Priority Number	
Priority Country	
Priority Date	
Field Of Invention	ELECTRICAL
Classification (IPC)	H02P6/18

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Abstract:

Predictive maintenance of motors is well suited for small to larger scale industries in order to reduce downtime, increase efficiency and reliability. This system is the design and implementation of IoT technology to monitor and diagnose the condition of DC motors by recording key operation indicators. The proposed system comprises of an IoT based platform to collect and process the DC motor parameters. The data collected can be stored in the cloud platform and same can be accessed through mobile application. The various parameters of the DC motor are analysed in order to gather specific information that can predict motor's failure. And also, timely alerts can be received for any violation in desired limits of parameters under monitoring. This model reduces the human effort by automation.

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Patent Search

Invention Title	IoT based Vehicle Fuel Monitoring System
Publication Number	03/2021
Publication Date	15/01/2021
Publication Type	INA
Application Number	202041053858
Application Filing Date	10/12/2020
Priority Number	
Priority Country	
Priority Date	
Field Of Invention	COMMUNICATION
Classification (IPC)	H04L 29/08

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Abstract:

IoT is extensively used in everyday object and its popularity is increasing day by day. The proposed system includes the design and development of an IoT and mobile-base
vehicle fuel activities such as real time fuel monitoring and GPS tracking system. The proposed IoT device measures the amount of fuel by using ultrasonic fuel sensor. Wh
vehicle tank of fuel reaches a certain level, driver gets notification through mobile application and also searches the nearest pump location for reloading fuel. The propose
system used GPS tracking for showing current location of vehicle and finding nearest pump location.

Complete Specification

Claims:1.   We claim an IoT-based accurate and real-time fuel monitoring system to control all vehicles by using mobile application.

2.   As mentioned in 1 we claim that the device or system may contain any type of electrical or electronic circuits and any type of processor or controller.

3.   As mentioned in 1 we claim that any communication medium or system in the station used for the device or system.

4.   As mentioned in 1 we claim that any intelligence and computer algorithms used for the above-mentioned process.

5.   As mentioned in 1 we claim that any type of power source used for our system or device in the station.

6.   As mentioned in 1 we claim that the system or device can have any type of architecture and physical designs.

7.   As mentioned in 1 we claim that any type of sensors for obtaining the parameters.

, Description:FIELD OF THE INVENTION

The internet of things, or IoT, is a system of interrelated computing devices, mechanical and digital machines, objects, animals or people that are provided with unique identifiers and the ability to transfer data over a network without requiring human-to-human or human-to-computer interaction. Fuel-management systems are designed to effectively measure and manage the use of fuel within the transportation and construction industries. This information can be then stored in computerized systems a reports generated with data to inform management practices. This enables consumption control, cost analysis and tax accounting for fuel purchases. Modern vehicle tracking systems commonly use GPS technology for locating the vehicle, but other types of automatic vehicle location technology can also be used.

BACKGROUND OF THE INVENTION

As fuel cost is rising constantly, people are facing fuel theft at petrol pumps. In that, vehicle owners do not calculate how much quantity of fuel needs in a day or in a wee

View Application Status

(54) Title of the invention : SOLAR AQUA INNOVATIVE POWER GENERATION

(51) International classification	:H01G0009200000, F03G0003080000, H02J0007350000, H01L0031040000, H01L0031000000	**(71)Name of Applicant :** 1)Dr.R.SATISH KUMAR Address of Applicant :Principal and Professor, Sengunthar College of Engineering, Kosavampalayam, Kumaramangalam (P.O), Tiruchengode (T.K), Namakkal (D.T) - 637205, India Tamil Nadu India 2)Dr.K.UMADEVI 3)Mrs.T.GOHILA 4)V.NANTHAKUMAR 5)G.SENTHILRAJAN 6)D.SATHIYARAJ 7)S.ANITHA
(31) Priority Document No	:NA	8)G.SATHYA
(32) Priority Date	:NA	9)P. LAVANYA
(33) Name of priority country	:NA	10)M.KARTHICK
(86) International Application No	:NA	11)K.RAJESH
Filing Date	:NA	12)S.BOOBALAN
(87) International Publication No	: NA	**(72)Name of Inventor :**
(61) Patent of Addition to Application Number	:NA	1)Dr.R.SATISH KUMAR 2)Dr.K.UMADEVI
Filing Date	:NA	3)Mrs.T.GOHILA
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Filing Date	:NA	5)G.SENTHILRAJAN 6)D.SATHIYARAJ 7)S.ANITHA 8)G.SATHYA 9)P. LAVANYA 10)M.KARTHICK 11)K.RAJESH 12)S.BOOBALAN

(57) Abstract :

Solar cells are a commonly considered photo electrochemical device that converts solar power into electricity by complicated processes. Although great achievements are made since the invention of assorted solar cells, there's still a problem the currently known solar cells can only be excited by sunlight. During this fashion, the solar cells can't realize electricity output (current, voltage, power) on rainy days, or a minimum of the electricity generation is comparatively low. The crucial reason for this can be that the origination of photo generated electrons is created under incident light illumination. The aim of the project is to get electricity from both sun and rain.

No. of Pages : 10 No. of Claims : 4

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Patent Search

Invention Title	Monitoring of Precision Viticulture System using IoT
Publication Number	51/2020
Publication Date	18/12/2020
Publication Type	INA
Application Number	202041053754
Application Filing Date	10/12/2020
Priority Number	
Priority Country	
Priority Date	
Field Of Invention	CHEMICAL
Classification (IPC)	C02F1/14

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Abstract:

Precision Agriculture (PA) is an ever-expanding field that takes modern technological advancements and applies it to farming practices to reduce waste and increase output
advancement that can play a significant role in achieving precision agriculture is wireless technology, and specifically the Internet of Things (IoT) devices. Small, inch scale a
cost devices can be used to monitor great agricultural areas. The proposed system is for precision viticulture which uses IoT devices for real-time monitoring. The different
components of the system are programmed properly and the interconnection between them is designed to minimize energy consumption. Wireless sensor nodes measur
moisture and soil temperature in the field and transmit the information to a base station. If the conditions are optimal for a disease or pest to occur, a drone flies towards
area. When the drone is over the node, pictures are captured and then it returns to the base station for further processing. The feasibility of the system is examined throu
experimentation.

Complete Specification

Claims:1.   We claim an IoT-based system for real-time monitoring in a vineyard by utilizing drones.
2.   As mentioned in 1 we claim that the device or system may contain any type of electrical or electronic circuits and any type of processor or controller.
3.   As mentioned in 1 we claim that any communication medium or system in the station used for the device or system.
4.   As mentioned in 1 we claim that any intelligence and computer algorithms used for the above-mentioned process.
5.   As mentioned in 1 we claim that any type of power source used for our system or device in the station.
6.   As mentioned in 1 we claim that the system or device can have any type of architecture and physical designs.
7.   As mentioned in 1 we claim that any type of sensors for obtaining the parameters.
, Description:FIELD OF THE INVENTION
Precision Agriculture (PA) uses traditional farming practices along with technology to make output production more efficient. PA plays an important role in today's
agriculture production as it can be used to monitor and control the spread of diseases. For farmers, diseases can be devastating, greatly affecting the output of a crop ar
limiting the yield produced. Ideally, most farmers would strive to prevent any diseases from occurring altogether, but this is not always the case. Controlling the likelihoo
diseases occurring requires advanced knowledge on factors such as vegetation type, soil, and weather, with the latter being the most unpredictable. The timing of diseas
manifesting is unknown, and it depends on the conditions which are necessary for its development. Events such as rain or high winds can easily transfer diseases betwe
plants. Therefore, once a disease has been identified, measures need to be taken to prevent a serious outbreak which can have a major impact on the yield and quality c
harvest for that season and future seasons.

View Application Status

Department of Industrial Policy and Promotion
Government of India

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Patent Search

Invention Title	DESIGN OF SMART WATER QUALITY MONITORING SYSTEM USING IOT
Publication Number	49/2020
Publication Date	04/12/2020
Publication Type	INA
Application Number	202041051450
Application Filing Date	26/11/2020
Priority Number	
Priority Country	
Priority Date	
Field Of Invention	COMMUNICATION
Classification (IPC)	G01N 33/18

Inventor

Name	Address	Country	Nat
Dr P Ramya	Associate Professor, Department of Computer Science and Engineering, Mahendra Engineering College (Autonomous Campus), Mallasamudram, Namakkal.	India	Indi
Dr G Sophia Jasmine	Associate Professor, Department of Electrical & Electronics Engineering, Sri Krishna College of Technology, Coimbatore.	India	Indi
Ms D Magdalin Mary	Assistant Professor, Department of Electrical & Electronics Engineering, Sri Krishna College of Technology, Coimbatore.	India	Indi
Mr D Vijayanandh	Assistant Professor, Department of Electrical and Electronics Engineering, Hindusthan College of Engineering and Technology, Coimbatore.	India	Indi
Dr E B Priyanka	Senior Research Fellow, Department of Mechatronics Engineering, Kongu Engineering College, Perundurai.	India	Indi
Ms P Kalaivani	Assistant Professor, Department of Information Technology, Bannari Amman Institute of technology, Erode.	India	Indi
Dr M Senthilkumar	Assistant Professor, Department of Electrical and Electronics Engineering, Sri Krishna College of Engineering and Technology, Coimbatore.	India	Indi
Dr P Ponmurugan	Head – R & D Sengunthar Engineering College, Tiruechengode	India	Indi

Applicant

Name	Address	Country	Nat
Dr P Ramya	Associate Professor, Department of Computer Science and Engineering, Mahendra Engineering College (Autonomous Campus), Mallasamudram, Namakkal.	India	Indi
Dr G Sophia Jasmine	Associate Professor, Department of Electrical & Electronics Engineering, Sri Krishna College of Technology, Coimbatore.	India	Indi
Ms D Magdalin Mary	Assistant Professor, Department of Electrical & Electronics Engineering, Sri Krishna College of Technology, Coimbatore.	India	Indi
Mr D Vijayanandh	Assistant Professor, Department of Electrical and Electronics Engineering, Hindusthan College of Engineering and Technology, Coimbatore.	India	Indi
Dr E B Priyanka	Senior Research Fellow, Department of Mechatronics Engineering, Kongu Engineering College, Perundurai.	India	Indi
Ms P Kalaivani	Assistant Professor, Department of Information Technology, Bannari Amman Institute of technology, Erode.	India	Indi
Dr M Senthilkumar	Assistant Professor, Department of Electrical and Electronics Engineering, Sri Krishna College of Engineering and Technology, Coimbatore.	India	Indi
Dr P Ponmurugan	Head – R & D Sengunthar Engineering College, Tiruechengode	India	Indi

Abstract:

Over recent years, waters sources have increasingly succumbed to a reasonable level of contamination. Water quality is defined with set of standards that clearly state the parameters of different properties in water. These standards are different at various geographic locations. A data collection framework for different water parameters to r water quality is required. The GIS framework system can effectively solve this continuously in real-time. With the end goal being to quantify different parameters; four key performance indicators like Temperature, potential of hydrogen (pH), Oxidation Reduction Potential (ORP), and Conductivity are identified. The proposed system is a Smar Quality Monitoring System interfaced with GIS and powered using solar cells. The system is capable of delivering an accurate and consistent measurement of water quality time. Hence the Smart Water Quality Monitoring System could be a smart choice to monitor the water quality and in turn develop sustainable cities and societies.

Complete Specification

Claims:1.   We claim an IoT based Smart Water Quality Monitoring System interfaced with GIS and powered using solar cells.
2.   As mentioned in 1 we claim that the device or system may contain any type of electrical or electronic circuits and any type of processor or controller.
3.   As mentioned in 1 we claim that any communication medium or system in the station used for the device or system.
4.   As mentioned in 1 we claim that any intelligence and computer algorithms used for the above-mentioned process.
5.   As mentioned in 1 we claim that any type of power source used for our system or device in the station.
6.   As mentioned in 1 we claim that the system or device can have any type of architecture and physical designs.
7.   As mentioned in 1 we claim that any type of sensors for obtaining the parameters.
, Description:FIELD OF THE INVENTION
Water is an unavoidable requirement of livelihood for billions of people all over the world, due to industrialization, the massive growth in population, excessive use of chemicals for agricultural activities, reclamation of land, and oil spillage into the water, and it is being contaminated at an alarming rate which is now a matter of concern Environmental and ecological changes have put various marine species at risk of extermination and poses a real threat to biodiversity. Several species in coastal areas ar vulnerable to climate change and environmental pollution. Similar circumstances are also applicable for human beings. Frequent monitoring and observation of various water parameters are required to maintain the high-water quality levels that are necessary for living beings.
BACKGROUND OF THE INVENTION
Internet of Thing (IoT) makes the monitoring and controlling process become accessible everywhere and every time. It is important to monitor and test water quality rea

View Application Status

राष्ट्रीय मतदाता सेवा पोर्टल
NATIONAL VOTERS' SERVICES PORTAL

Page last updated on: 26/06/2019

MEMORANDUM OF UNDERSTANDING (MOU)

The **SENGUNTHAR ENGINEERING COLLEGE** (Autonomous), **TIRUCHENGODE**, hereinafter called **SEC** which expression shall include its successors in the field of education and imparting knowledge to students aspiring to be Engineers & Technocrats.

AND

Lab Tech, having TS-69-A, SIDCO Industrial Estate(Gunidy), Ekkattuthangal, Chennai hereinafter called LT called which expression shall include its successors of a company involved in, Renewable Energy Systems Design and Development, Process Automation and Instrumentation, IoT based advanced product design.

AND WHEREAS, both **SEC** and **LT** have agreed to enter into this Memorandum of Understanding, for Corporate Initiatives of the following aspects for mutual benefits.

1. Students' visits and in-plant training at the LT
2. Students' project work at the LT
3. Faculty training at the LT
4. Guest lectures at SEC by the LT personnel and Extension lecturers by the faculty of SEC at LT

This MoU will be extended for a period of three years from the date of signing and can be renewed at the option of both the parties after expiry. This MoU can also be terminated at any point of time by either of the parties without any liability to the other party with mutual consent.

This Memorandum of Understanding (MoU) made and executed on this 18.12.2019.

For & on behalf of
SENGUNTHAR ENGINEERING COLLEGE
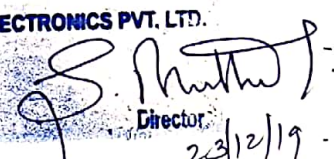**(Autonomous)**

18.12.2019.

Prof. A. BALADHANDAPANI M.A., M.Phil.,
Secretary & Correspondent,
Sengunthar Engineering College,
Tiruchengode.
SECRETARY & CORRESPONDENT,
SENGUNTHAR ENGINEERING COLLEGE
(AUTONOMOUS)
TIRUCHENGODE - 637 205.

For & on behalf of
Lab Tech
For LABTECH ELECTRONICS PVT. LTD.

Director.
23/12/19
Ms.S.MUTHULAKSHMI M.E.,MBA,
Director,
Lab Tech ,
Chennai.

MEMORANDUM OF UNDERSTANDING (MoU)

SENGUNTHAR ENGINEERING COLLEGE (Autonomous), TIRUCHENGODE, hereinafter called **SEC** which expression shall include its successors in the field of education and imparting knowledge to students aspiring to be engineers, technocrats & Managers.

AND

Innovatus Systems, having its registered office at A82, Kovaipudur, Coimbatore, hereinafter called **Innovatus** which expression shall include its successors of a company involved in, Systems Consultancy, Software Solutions Provider, IT Consultancy, Business Software, Smart Phone Apps.

AND WHEREAS both **SEC** and **Innovatus** have agreed to extend the Memorandum of Understanding (MoU), for Corporate initiatives of the following aspects for mutual benefits.

1. In-plant training and internships at Innovatus.
2. Students' project work at Innovatus.
3. Faculty Training at the Innovatus.
4. Consultancy activities for mutual benefit.
5. Guest lectures at SEC by Innovatus personnel and Extension lectures by the faculty of SEC at Innovatus

This MoU will be extended for a period of three years from the date of signing and can be renewed at the option of both the parties after expiry. This MoU can also be terminated at any point of time by either of the parties without any liability to other party with mutual consent.

This Memorandum of Understanding (MoU) made and executed on this 02.03.2021.

Prof.A.BALADHANDAPANI, M.A.,M.Phil.,
Secretary & Correspondent,
on behalf of
Sengunthar Engineering College (Autonomous),
Tiruchengode.

Mr.NARAYANASWAMY SRIDHAR
Managing Partner
on behalf of
M/s Innovatus Systems,
Coimbatore.

MEMORANDUM OF UNDERSTANDING (MoU)

SENGUNTHAR ENGINEERING COLLEGE (Autonomous), TIRUCHENGODE, hereinafter called SEC which expression shall include its successors in the field of education and imparting knowledge to students aspiring to be engineers, technocrats & Managers.

AND

M/s. ABE SEMICONDUCTOR DESIGNS, having its office at Level 5, North Block, Thamarai Tech Park, Sp. Plot, no:16 And 20, Thiru Vi Ka Industrial Estate, Guindy, Chennai - 600032 hereinafter called ABE which expression shall include its successors of a company involved in, Embedded Training, ARM Boards and GPS Trackers.
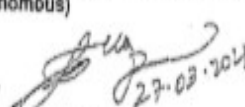
AND WHEREAS both SEC and ABE have agreed to extend the Memorandum of Understanding (MoU), for Corporate initiatives of the following aspects for mutual benefits.

1. Industrial Visits, in-plant training and internships for the students of SEC at ABE as and when requested, and with mutual consent, to gain practical knowledge.
2. Students' Testing and Project Work at ABE.
3. To impart Value Added Training in the field of IoT, Embedded Systems, Signal Processing as and when requested.
4. SEC will provide technical support/consultancy to ABE as and when required, and on case-to-case basis, with mutually agreed terms and conditions.
5. Guest lectures at SEC by the ABE Personnel and Extension lectures by the faculty of SEC at ABE.

This MoU will be extended for a period of three years from the date of signing and can be renewed at the option of both the parties after expiry. This MoU can also be terminated at any point of time by either of the parties without any liability to other party with mutual consent.
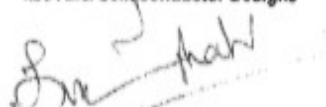
This Memorandum of Understanding (MoU) made and executed on this 27.03.2021.

For & on behalf of
SENGUNTHAR ENGINEERING COLLEGE
(Autonomous)

27-03-204.

Prof.A.BALADHANDAPANI, M.A., M.Phil.,
Secretary & Correspondent,
Sengunthar Engineering College (Autonomous),
Tiruchengode.

For & on behalf of
M/s ABE Semiconductor Designs

Dr. ATHIF SHAH
Chairman,
M/s ABE Semiconductor Designs,
Chennai.

MEMORANDUM OF UNDERSTANDING (MoU)

Texas Instruments Teaching Lab Setup at Sengunthar Engineering College (Autonomous), Tiruchengode

This memorandum of understanding is signed on the 7th day of May 2021, between the following institutions:

a. STEPS Knowledge Services Pvt Ltd which is the University Program Partner of Texas Instruments, India, herein after referred to as STEPS

b. **Sengunthar Engineering College (Autonomous), Tiruchengode,** herein after referred to as College

This Memorandum of Understanding is proposed in order to establish a teaching lab facility in the area of Texas Instruments (referred henceforth as TI) Embedded systems and Analog Systems at the College with Technical Support from STEPS. Through this Memorandum for Agreement, the two parties agree to the following:

(a) A **steering committee** will be set up to monitor the activities of the MoU. The committee will consist of Ms. N.Kavitha, Technical Director, STEPS and the College. With mutual consent, the steering committee can be expanded to include more members from the two institutions. The steering committee will be the supreme body as far the implementation of the activities of the MoU, the continuation of the MoU, and termination of the MoU are concerned. The MoU will be reviewed every 3 years.

(b) **Lab Setup:** The College will set up a lab which will be entitled "**Texas Instruments Embedded System and IoT Lab**" at its premises. STEPS will liaison with Texas Instruments India (TI) and agree to supply Development Kits for ECE Department on mutually agreed basis. STEPS agree to set up the lab and provide the necessary initial training and learning materials to begin the instruction on a mutually agreed basis.

(c) **Curriculum:** The College will introduce a Value-Added Course which is completely Hands-On using Texas Instruments Technology in their undergraduate engineering curriculum conducted by STEPS or by the Faculty at the college premises. This Course has to be done atleast once in a year with a preferred participation of 40 trainees from ECE departments. The college will also explore other ways to introduce TI Platforms in their curriculum as applicable enabling the engineering students to get exposed to industry preferred leading technologies.

(d) **Faculty Development Program:** If the College wishes to organize Faculty Development Program in its premises for its faculty members and faculty members of other Indian engineering institutions to teach TI Texas Instruments Embedded System and IoT Lab Platform. The College will provide the infrastructure facility for conducting the Faculty Development Program (FDP). STEPS will extend training services which will facilitate the college in conducting this program on mutually agreed basis.

(e) **Workshops/Events:** If the College wishes to organize a national event in the area of TI Texas Instruments Embedded System and IoT Lab, STEPS will provide speakers/trainers/conduct workshops – 1 day / 2 day / Multi-Day on mutually agreed basis.

(f) **Training/Internship Programs:** STEPS will support the college in organizing training programs/internships on topics related to TI Texas Instruments Embedded System and IoT Lab platform on mutually agreed basis. STEPS will provide certificates for the participants of such programs.

Authorized Signatories:

Authorized Signatory from College:

07-05-2021

Prof. A. BALADHANDAPANI, M.A., M.Phil.,
Secretary & Correspondent,
Sengunthar Engineering College (Autonomous),
Tiruchengode.

Authorized Signatory from STEPS:

7\5\21

Mr. RAMESH VALAVADI SOUNDARARAJAN
Director,
M/s. STEPS Knowledge Services Pvt. Ltd.,
Coimbatore.