

ADIT

A D PATEL INSTITUTE
OF TECHNOLOGY

Bits and Bytes

NEWSLETTER

ELECTRONICS AND COMMUNICATION
ENGINEERING DEPARTMENT
(EMPOWER THE INNOVATIONS)

AD PATEL INSTITUTE OF TECHNOLOGY
(A CONSTITUENT COLLEGE OF CVM UNIVERSITY)

NEW V V NAGAR- GUJARAT INDIA – 388121 www.adit.ac.in



CVM
UNIVERSITY

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The only real mistake is the one, from which we learn nothing.

- Henry ford

DEPARTMENT ETHOS

Vision

Nurturing excellence in Electronics and Communication engineering through innovative, rational and ethical thinking.

Mission

- To impart quality education through fundamental theory and praxis in Electronics and Communication Engineering.
- To provide conducive learning environment for holistic development.

Program Specific Outcomes

- Gain the knowledge of various analog and digital electronics and communication systems.
- Use the software and hardware based approach in design, analysis and implementation of circuits and systems.
- Create, think and develop an electronics and communication based systems for different applications

FROM THE DESK OF THE PRINCIPAL



Dr. Vishal N Singh
Principal, ADIT

The Department of Electronics and Communication Engineering has been creating a great value for its students, industry and society at large. The Department got NBA Accreditation during 2009-2012. The Department runs two Centre of Excellence in the area of Multimedia Signal Processing and Advanced Communication Technologies. Faculty members and students of the Electronics and Communication Engineering Department are working on two research projects funded by Indian Space Research Organization (ISRO). The Department has well equipped laboratories with hands on experience. Students have been participating in mega events like HACKATHON, MAKERFEST, CHHATRA VISHVAKARMA and IT Design contests. I congratulate the Department on bringing out the Newsletter for creating awareness about the achievements of faculty and students of the Electronics and Communication Engineering Department.

FROM THE DESK OF THE HEAD

It gives me an immense pleasure to release the Newsletter of Electronics and Communication Engineering Department for the period of July-19 to December-2020. The newsletter outlines achievements of students and faculty members of the department for various technical, cultural and sports activities. The Department has organised various technical and non technical activities during the period of July-2019 to December-2020. Department of Electronics and communication engineering having highly qualified faculty members who contribute towards the research and consultancy in the area of Antenna design, Wireless communication and Image processing. Department has two Centre of Excellence in the areas of Communication and Multimedia signal processing. I appreciate all the team members for their efforts in bringing out this newsletter. We look forward to continue this trend in future to achieve the vision of the department and the institute.



Dr. Hetal N Patel
Head
EC Department

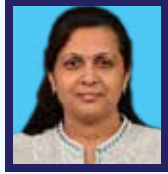
EDITOR'S MESSAGE



Dr. Kalpesh M Shah
Asst. Professor
EC Department

It is my pleasure and great privilege to represent the department activities in the form of yearly newsletter. Undoubtedly it is a huge responsibility to collect and compile the data with utmost care. In this issue, the Newsletter highlights various technical activities organized by Department, Publication details, UG and PG Toppers of the Department, Placement details, Alumni message and their current role, Project participation. Moreover, it covers department faculty strengths, state of the art laboratories and centre of excellence. I am thankful to my colleagues Dr. Rutvij Joshi, Prof. Khushali Shah, Dr. Heena Kher, Prof. Mehul Thakkar and all the faculties of the department who helped me to accumulate the content of the Newsletter. The task of Newsletter will be incomplete without the help of our creative prospective engineer Pruthvi Dabhi. His continuous efforts to properly compile and prepare the format of newsletter was highly appreciable. In true sense, he is very dedicated and committed to his work. It is a proud for the Department to have student like Pruthvi Dabhi (18EC02).

DEPARTMENT FACULTY PROFILE



Dr. Hetal Patel (Professor and Head)

B.E.(Electronics), M.E.(MSA), Ph.D

Academic experience : 20 Years



Dr. Viranchi Pandya (Associate Professor)

B.E.(Electronics), M.E.(MSA), Ph. D.

Academic experience : 19 Years



Dr. Pravin Prajapati (Associate Professor)

B.E.(Electronics), M.Tech(Communication Systems),
Ph.D

Academic experience : 22 Years

Industrial experience : 0.6 Year



Dr. Rutvij Joshi (Associate Professor)

B.E.(Electronics), M.E.(Communication Systems), Ph. D

Academic experience : 15 Years

Industrial experience : 1 Year



Dr. Kalpesh Shah (Assistant Professor)

B.E (Electronics) M.E. (Communication Engineering)
Ph.D

Academic experience : 14 Years

Industrial experience : 3 Year



Prof. Khushali Shah (Assistant Professor)

B.E (Electronics)

M.E.(Electronics & Communication Systems)

Academic experience : 13 Years



Prof. Mehul Thakkar (Assistant Professor)

B.E. (EC) M.E. (Communication Engineering)
Ph.D.(Ongoing)

Academic experience : 13 Years

Industrial experience : 0.8 Year



Dr. Heena Kher (Assistant Professor)

B.E.(Instrumentation and Control), M.E. (MSA),
Ph.D.

Academic experience : 19 Years

RECENT PUBLICATION DETAILS

International Journal Publications

H. Shingrakhia and H.Patel, " Emperor Penguin optimized event recognition and summarization for cricket highlight generation ", Multimedia Systems, Springer Journal, August,2020.

C. Chauhan, P. Prajapati, "Design and Performance of Spectral Efficient Modified New Diagonal Code for a Spectral Amplitude Code-Optical Code Division Multiple Access System, "Optical Engineering , SPIE, United States, Vol. 59, No 2, pp 5103-12, Feb-2020

P. Kaur, P. R. Prajapati, "Design of Circular Polarized Antenna using Gammadion Chiral Metamaterial as Linear-To-Circular Polarization" Progress In Electromagnetics , Vol. 96, pp.69-79, 2020.

R. Paul, V. Thakar and H. N. Patel, " Event-Triggered Particle Filter for State Estimation of Non-linear Stochastics Hybrid System with Missing Measurements ", Proceedings of the Fifth International Conference on Inventive Computation Technologies, 2020.

R. Patel, V.K.Thakar, R.C.Joshi, "Single Image Super-Resolution through Sparse Representation via Coupled Dictionary learning" International Journal of Electronics and Telecommunications, volume 66, No1, 2020.

R. Kher, H. Kher, "Soft Computing Techniques for Various Image Processing Applications: A Survey" Journal of Electrical and Electronic Engineering. Special Issue: Journal of Electrical and Electronic Engineering. Vol. 8, No. 3, 2020, pp. 71-80.

M. R. Gandhi, V. K. Thakar ,H. N. Patel,"Gujarati Handwritten Character Recognition Using Convolutional Neural Network ", Journal of Emerging Technologies and Innovative Research, Volume 6 ,Issue 5 , pp:518-523, May-2019.

R. Paul,V. Thakar, H. N. Patel, "A Simple And Novel Algorithm For State Estimation Of Continuous Time Linear Stochastic Dynamic Systems Excited By Random Inputs", International Journal of Innovative Technology and Exploring Engineering 8 (10), 2019.

National Journal Publications

Yadav V., Patel H. and S. Shah, " Design and Analysis of Noise Suppression techniques for speech signal", Journal of Applied Science and Computations , Vol-6, Issue - 4, pp: 2708-2717.

M. Gandhi, V. K. Thakar and H. Patel , " Handwritten Gujarati Numeral Recognition using Wavelet transform", Journal of Applied Science and Computations , Vol-6, Issue - 4, pp: 2699-2707.

International Conference Publications

J. S. Shukla, K. Rastogi, H. Patel, G. Jain, S. Sharma, "Bag of visual words methodology in remote sensing- A Review", International e-Conference on intelligent systems and signal processing (e - ISSP 2020), 28 - 30 Dec 2020.

S. Khant, P. Prajapati, "Performance Analysis of Cladding Pumped EDFA in Different Host Glasses , " International Virtual Conference on Smart Advanced Material Science and Engineering Applications, KL University, Vijaywada, India, 3-5 Dec 2020

C. Chauhan, P. Prajapati, "Design and performance of Spectral Efficient Modified Diagonal Code (MND) for OFDM-OCDMA System using AND-Subtraction Detection," IEEE International Conference on Computing, Power and Communication Technologies (GUCON) , 2-4 October-2020

R. Paul, V. Thakar and H. Patel, " Chi-square statistics based state estimation of stochastic hybrid system with missing measurements", International Conference on Research and Innovations in Science, Engineering and Technology-ICRI-SET-2020, 4-5 Sep 2020.

Rathod N., H. Kher and H. Patel," Deep learning based algorithm for image captioning", International Conference on History and Recent Developments in Mathematics, with Applications in Science and Technology (ICHDMAST-2019), 17-19 Dec 2019

Book Chapters

M. Thakkar, P. R. Prajapati, H. Shah, "Tunable RF/Microwave Filter with Fractal DGS," Technological challenges and solutions to Electrical and Electronic Devices, Circuits and Materials, publisher : Scrivener Publishing, Wiley, Editors: S. L. Tripathi, P.A. Alvi, U. Subramaniam, 2021.

It is strange that only extraordinary men make the discoveries, which later appear so easy and simple.

- Georg C. Lichtenberg

DEPARTMENT ACHIEVEMENTS

Faculty Achievements

Dr. Hetal N. Patel has started "Centre of Excellence in Multimedia Signal Processing (CoEMSP) on 16th November-2019 at ECE Department, A.D.Patel Institute of Technology, New Vallabh Vidyanagar, Gujarat, India.

Dr. Hetal N. Patel has received research grant of 16,31,000 INR from ISRO RESPOND program for research project on Urban Feature Extraction and Classification using Satellite Images in the month of October-2019

Dr. Rutvij C. Joshi has Provided industrial consultancy to Insignex Pvt. Ltd. for "RF Module Testing and Analysis" on 10th May 2019 at ECE Department, A.D.Patel Institute of Technology, New Vallabh Vidyanagar, Gujarat, India.

Dr. Bhavik R. Patel has received best Faculty Appreciation Awarded on 19th Annual Day celebration of A.D.Patel Institute of Technology, New Vallabh Vidyanagar.

Prof. Mehul Thakkar has Completed NPTEL Certificate course on "Microwave Theory and Techniques" with 65% score on 1st December-2019.

Dr. Hetal Patel has received IEEE Senior member award from IEEE, New York

Student Achievements

Pruthviraj Doshi and Tirth Thakkar have received SSIP project grant for the project title "Solar Canopy Kit" of amount 20000.00 INR.

PG student Nidhi Rathod has received Gold medal in GTU 10th Convocation held on 18th January, 2021

Harsh Patel received Emergent Ventures of 3096\$ (appr. 2,26,591 INR) from MERCATUS CENTER, George Mason University on 17th Aug,2020 for research work and development services for making a robot to enable social distancing in the COVID-19 pandemic.

Harsh Patel and Smit Patel, nominated for AICTE - Chhatra Vishwakarma Awards 2019 organized on 20th December-2019 at Oriental College of Engineering, Bhopal, Madhya Pradesh, India.

Mrugesh Patel is awarded with certification of Appreciation for actively volunteering the event AICSSYC-2019 organized by IEEE student chapter, during 11-13, October-2019 at A.D.Patel Institute of Technology, New Vallabh Vidyanagar, Gujarat

Harsh patel is awarded with Certificate of Appreciation for his excellent contribution offered as "Co-Organiser" towards AICSSYC-2019 organized by IEEE student chapter during 11-13, October-2019 at A.D.Patel Institute of Technology, New Vallabh Vidyanagar, Gujarat.

Pruthvi Dabhi is awarded with Certificate of Appreciation for his excellent contribution offered as "Photography team" towards AICSSYC-2019 organized by IEEE student chapter during 11-13, October-2019 at A.D.Patel Institute of Technology, New Vallabh Vidyanagar, Gujarat

Amanjeet Reshi was runner up in West Zonal League of Lawn Tennis held in April-2019 at Udaipur, Rajasthan.

Mihir Patel, Kiran Nambiar, Hardik Gadhiya and Tanmay Dagaonkar got first prize in project competition held at GCET college in March-2019

Kishan Patel, Represented the country as team member at Rockball Amateur Federation of India and won the Indo-Sri Lanka International Rockball Championship on 11th January - 2019 at Srilanka

PLACEMENT SUMMARY



BYJU'S

AAKASH SINGH



MG Motors

ASTHA MOTVANI



Volansys

KANDARP JOSHI



Volansys

ASHISH RAI



Volansys

RUTVI DHRUV



Volansys

MEET BHATT



Collabera

ANSHIKA SHARMA



Collabera

JHANVI PARMAR



Rigel Network

JOY MAJMUDAR



Rigel Network

ABBAS PITTALWALA

PLACEMENT 2019-20

SHINING STARS OF THE DEPARTMENT



PG

NIDHI RATHOD

SEM 4 SPI-8.25



PG

PATEL ANKIT

SEM 2 SPI-8.86



UG

SHIV PANCHAL

SEM 8 SPI-10



UG

MISTRY JAHNVI

SEM 8 SPI-10



UG

PATEL DARSH

SEM 8 SPI-10



UG

PATEL DHRUTI

SEM 8 SPI-10



UG

SINGH SHIVANGI

SEM 6 SPI-9.71



UG

RESHI AMANJEET

SEM 6 SPI-9.63



UG

RAVAT MUSTAFA

SEM 4 SPI-9.83



UG

GAUR JAGDISH

SEM 4 SPI-9.35

UG ALUMNI OF THE DEPARTMENT



**Priyank
Deshmukh**



Stuti Shelat



Vandit Patel

**Sr. Software Engineer
TCS, Greater Seattle
Area**

**Graduating Year
2011**

**Program Manager I
PayPal Inc - USA
(via Modis)**

**Graduating Year
2012**

**NOC Service Engineering
Staff Equinix,
California, United States**

**Graduating Year
2013**



**Vardhansinh
Ravalji**



Mohit Bansal



Megha Ticku

**Application Developer
California, United
States**

**Graduating Year
2014**

**Senior Engineer
Qualcomm,
Delhi**

**Graduating Year
2015**

**Information Technology
analyst TCS,
Benguluru**

**Graduating Year
2016**



Akshay Kiran

**Exempt Non-Officer
(ENO) Credit Suisse
Pune**

**Graduating Year
2017**

**Silicon Design Engineer
AMD, Bradford,
Ontario, Canada**

**Graduating Year
2018**



Idrish Vhora

PG ALUMNI OF THE DEPARTMENT



Simeen Khan



Parth Panchal



Tejendra Panchal

**Devops Engineer
TCS Mumbai**

**IT Analyst
TCS Bengluru**

**Verification Engineer
PVIPs**



**Christopher
Parmar**



Puja Pandya



Rajendra Chauhan

**Scientist Engineer
SAC ISRO**

**Validation Engineer
Intel Bengaluru**

**Senior Software
Engineer
System Level
Solution Pvt Ltd, VU
Nagar**

You cannot teach a man anything; you can only help him discover it in himself.
- Galileo

PG GOLD MEDALISTS



CHRISTOPHER PARMAR YEAR:2016



CHANDANI DESAI YEAR:2018



SAMREEN AHMED YEAR : 2013



NIKHIL DHAMELIYA YEAR :2014



NIDHI RATHOD YEAR:2020



ANUSHA SAHOO YEAR :2015

I am not in competition with anyone but myself. My goal is to improve myself continuously
- Bill Gates

ALUMNI TESTIMONIALS



Samarth Bhatt

Being a part of 2016'Batch of ADIT, I have great nostalgic experiences about the College and the ECE department. Headed by Dr. Hetal Patel then, this was a department of some amazing faculties who not only had an impact on my academics, but also on my all-round personality. Be it Prof. Kalpesh sir's unique way of bonding with students by telling stories in his room, be it Dr. Viranchi Pandya sir's amazing classes, be it Dr. Pravin Prajapati sir's interactive and attractive teaching(never a dull moment) and of course all the fun and lighter moments we used to have with all the staff. This was a department where we grew academically and personally. Always love to rewind those years of my life. Thanks ADIT and ECE!!!

ADIT campus is very cool, calm and away from chaos of the city with hostel and other facilities. The faculty members of EC Department are friendly and are good mentors who provide professional guidance to students for their big leap in the future. The department has arranged expert sessions regularly based on students' requirements. For holistic development college also provides the various opportunities to participate in various events like Techfest, hackathon, cultural event, seminars, workshops, expert lectures and best thing which I would never forget is Robocon (international event). ADIT gave me my best 4 years of my life which I will never forget.



Harsh Patel



Akshay Kiran

"Today I would like to express my deep sense of gratitude to the principal, HOD and all the faculties of E.C department who dedicated themselves in sculpting our future. The faculties used to stay back even after the sessions to clear our doubts. They encouraged and guided us whenever needed. Today we stand firm in the outside world only because of them. I take pride for belonging to such an institution."

My 4 years journey at ADIT especially in EC Department was great and a memory to cherish for lifetime. It was full of learning as it enhanced my academic & interpersonal skills because all my faculties in EC Dept of ADIT always provided me a platform for practical learning by encouraging me to share new ideas, thoughts & doubts without any hesitation with them. Here relationship between faculties & students is very cordial which gives students an opportunity to excel themselves in their area of interest. I'm thankful to all my faculties & mentors of EC Departments like Hetal Ma'am, Pravin Prajapati Sir, V.C.Pandya Sir, Vipul Dabhi Sir & many more for their continuous guidance & support during 4 years of my graduation.



Ankit Hariyani



Roshni Chaudhari

I always positively remember my best tenure at ADIT in EC Department, as a PG student in "Signal Processing and Communications" specialization during 2011-13. Timely and in continuous manner many technical seminars, workshops, short term training sessions and technical events arranged by our department. Excellent and state of art quality hardware and software facilities helped me a lot to boost my technical zeal and abilities to be a good technical researcher. Such things always increased my confidence level as a PG student. I always received positive, prompt and needful appropriate responses from every faculty of my EC department. From bottom of my heart I am always thankful to the ADIT EC department for shaping my career as a good technical person.

STATE OF THE ART LABORATORIES



COMMUNICATION LABORATORY



EMBEDDED RESEARCH AND VLSI LABORATORY

DIGITAL SIGNAL PROCESSING & DIGITAL IMAGE PROCESSING LABORATORY



PROJECT AND ELECTRONIC WORKSHOP LABORATORY

I don't care that they stole my idea... I care that they don't have any of their own.
Nikola Tesla

PROJECT PARTICIPATION



Student with farmers testing Spherical Robot in Farm

Represented ADIT at Regional Convention of 3rd AICTE Chhatra Vishwakarma Awards-2019 held on 20th December 2019 at Bhopal





Spherical Robot for Agriculture applications





Arogya Sahayak: Semi-Autonomous & User-Friendly Robot developed by Harsh Patel for Medical Doctors and Nursing staff.


KNOWLEDGE ENHANCEMENT : SEMINAR, WORKSHOP AND WEBINAR


 Certificate course on "Electronics for Physicist"
24 Apr - 3 May 2020


 Certificate course on "Fundamentals of Mathematics and its applications"
4-9 May 2020


 Certificate course on "Basics of Mobile Communication Systems"
5-9 May 2020

 Certificate Course on "Fundamental of Image Processing using Python"
11-16 May 2020


 Career options and opportunities for B.E EC Students
21-22 May 2020

 Electronics "Spot Light, Opportunity and Future Scope"
1-2 June 2020

 Fundamentals of Mathematics and Physics for Engineering Applications
8-13 June 2020

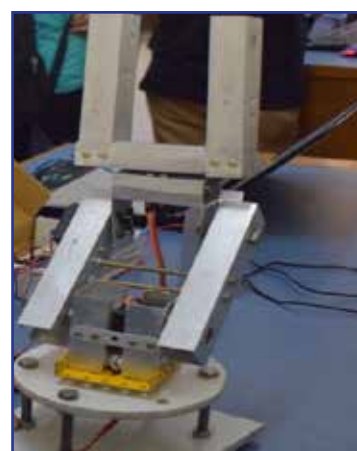
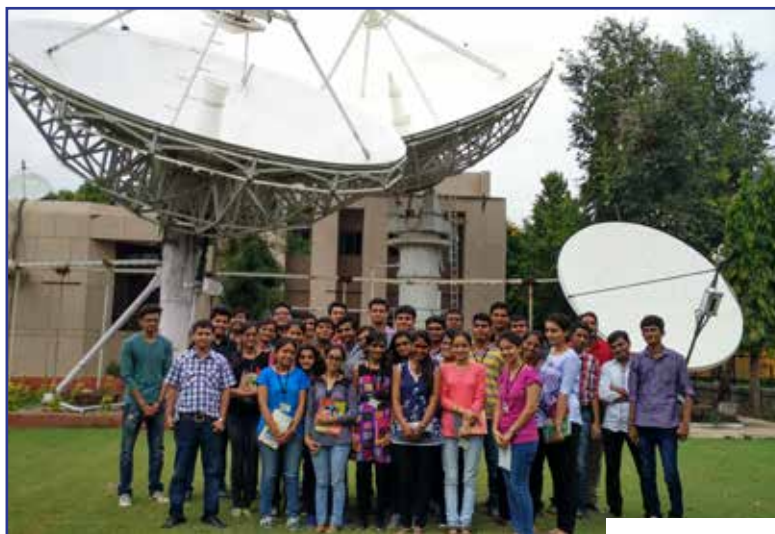
 Expert Talk on Career option in Semiconductor Industry
01 Aug 2020

 Expert Talk on IoT and Embedded Systems
21 Sept 2020

 Future of Electronics and Information Technologies in next decade
26 Sept 2020

Every brilliant experiment, like every great work of art, starts with an act of imagination.
– Jonah Lehrer

GLIMPSE OF THE DEPARTMENT ACTIVITIES



GLIMPSE OF THE DEPARTMENT ACTIVITIES

