JONTI TALUKDAR

Institute of Technology, Nirma University • Ahmedabad, Gujarat, India
• jonti.talukdar.05@gmail.com • 14bec057@nirmauni.ac.in
• (+91) · 9898690235

EDUCATION

Institute of Technology, Nirma University   2014 - 2018
Bachelor of Technology (Electronics and Communication Engineering), 6th Semester
Overall GPA: **8.74**

R.N. Podar School, Santa-Cruz West, Mumbai   2010 - 2014
CBSE, Class XII, (Physics, Chemistry, Mathematics and Biology)
Percentage: **95.2%**
CBSE, Class X, (Science, Mathematics and English)
GPA: **10**

PROJECTS

Road Network Extraction for Remote Sensing Applications   Jan 2017 – Ongoing
· Working on implementing a two step algorithm for extracting linear features from SAR images for Ahmedabad city.
· Creating a classifier to distinguish between unpaved and paved roads from the SAR images using Python.

Real-time Human Action Recognition System   Jul 2016 - Dec 2016
· Developed a novel approach for recognizing human actions using good features and iterative optical flow algorithm.
· Used the resilient backpropagation algorithm for training the feedforward neural network by utilizing OpenCV and Python based machine learning libraries including 'sklearn', 'skimage', etc.
· Implemented and tested the system on embedded Linux platforms including Odroid XU4, Raspberry Pi 3.

OCR based Automated Sudoku Solver   Sep 2016 - Nov 2016
· Developed python scripts for automating the process of solving Sudoku problems directly by clicking their pictures.
· Utilized 'PIL', 'numpy' libraries to extract features for classification of numbers from 0 to 9 after correcting for skewness, alignment and image segmentation.
· Used multiclass linear SVM for training the classified data into a machine learning model.

SNR based Smart Spectrum Sensing Technique   Jun 2016 - Sep 2016
· Implemented a smart spectrum sensing algorithm based on SNR estimation for improving the frequency utilization and reuse in Cognitive Radio networks.
· Used the Universal Software Radio Peripheral (USRP) to detect spectrum holes in the Wi-Fi and Bluetooth bands respectively.

Sensor Management System using IoT   Mar 2016 - Apr 2016
· Projected data from light, temperature and motion sensors to 'ThingSpeak' cloud API using the ESP8266 module.
· Used the ESP8266 as a web server, controlling its GPIOs through the internet by another device connected to the same network.

Design and Simulation of Autonomous Indoor Navigating UAV   Dec 2015 - May 2016
· Proposed an autonomous UAV system which performs simultaneous localization and mapping (SLAM) using onboard Lidar, flight controller and a dedicated GPU.
· Simulations of the model and SLAM algorithm performed in 'gazebo' and ROS Indigo.
· Proof of concept implemented and successfully tested using a terrestrial ground robot with on board 360^0 RPLidar.

PUBLICATIONS

Accepted, In Press:

· **J. Talukdar**, B. Mehta, 'Human Action Recognition using Good Features and Multilayer Perceptron Network', *In Proc. IEEE Intl. Conf. on Communication and Signal Processing (ICCSP)*, Apr. 2017.
· **J. Talukdar**, B. Mehta, K. Aggrawal, M. Kamani, 'Implementation of SNR estimation based Energy Detection on USRP and GNU Radio for Cognitive Radio Networks', *In Proc. IEEE Intl. Conf. on Wireless Communication, Signal Processing and Networking (WiSPNET),* Mar. 2017.

TECHNICAL SKILLS

Relevant Coursework: Art of Programming, Data Structures, Linear Algebra, Electronic Devices and Circuits, Integrated Circuits and Applications, Modern Processor Architecture, VLSI Design, Digital Communication, Electromagnetics Engineering, Antenna and Wave Propagation, Fiber Optic Communication, etc.

Programming Languages: Python, C/C++, MATLAB, OpenCV packages, HTML, Lua.

Embedded Platforms: Arduino, Raspberry Pi 3, Odroid XU4, etc.

Operating Systems: Windows, Linux, Embedded Linux.

EXTRA CURRICULARS

Center Head, Make a Difference   Apr 2015 - May 2016
· Joined the Ahmedabad city Core Team as part of fellowship program under Make a Difference.
· Ensured effective implementation and quality of all projects within the center.

Internship Program, Jet Airways   May 2015 - Jun 2015
· Joined the Jet Airways Engineering and Maintenance Facility at their hangar at Mumbai airport as part of the Engineering and Management Internship program.
· Worked at the Maintenance & Control Center (MCC) which manages global operations, engineering and maintenance of the entire fleet as well as provides technical assistance to ground & air crew.

Ed Support Volunteer, Make a Difference   Aug 2014 - Apr 2015
· Took up ownership to teach Science and Mathematics to class 9 kids at a shelter home in Gandhinagar, Gujarat.
· Provided after-school support through teaching assistance and mentorship of the kids at the shelter.

***