

RBCCPS, IISc Bangalore, 560012 | smpdmohanty@gmail.com | web: sampy.in | Ph: +91-7978305792 | [\[extras\]](#)

Motivation and Objective

To remain a lifelong learner, teacher and leader, helping the society through contribution to education, research and industry, in my country and the world. Interested in research related to computer vision, machine learning, robotics, cyber physical systems, and wireless sensor networks for interesting and unconventional problems. I look up to take my inspirations from R.P. Feynman, Freeman Dyson, Prof. Walter Lewin [MIT], Prof. Denis Auroux [Harvard], Prof. Leonard Susskind, Salman Khan [Khan Academy], Andrew Ng [Coursera], Sebastian Thrun [Udacity and Stanley] and Prof. P. Vijay Kumar [IISc Bangalore].

Education

2016 || B.Tech – M.Tech Dual Degree || National Institute of Technology Rourkela

GPA - 7.57/10 || Bachelors – 7.20/10 || Masters – 8.43/10

Major | Specialization :: Electrical Engineering | Control and Automation [[Thesis](#) on WSN and IOT for mine safety]

Experience

- Project Associate || **Robert Bosch Center for Cyber Physical Systems (RBCCPS), IISc Bangalore** || Oct 2017 - Present
- Project Associate || **ECE Dept. Indian Institute of Science Bangalore** || Aug 2016 – Sep 2017
- Research Assistant || **ECE Dept. National Institute of Technology Rourkela** || July 2015 – May 2016
- Undergraduate Research Intern - Team Leader for NITR Balloon Satellite-2 || **Satellite Lab, ECE Dept. NIT Rourkela** || May 2014 – July 2015
- Founding Member and Lead Embedded and Network developer || [Pheonix Robotix](#) || May 2014 – July 2015
- Founded Nearthly – A food ordering platform for NITR campus || [Nearthly](#) || July-2014 – Jan 2015
- Core Member || [CYBORG](#) – **Robotics and Automation Society, NIT Rourkela** || May 2012 – July 2014

Publications

- Neha Karanjkar, Ashish Joglekar, Sampad Mohanty, Venkatesh Prabhu, D. Raghunath and Rajesh Sundaresan, “Digital Twin for Energy Optimization in an SMT-PCB Assembly Line”, IEEE IoTaIS, Bali Indonesia, 2018] [[PDF](#)]
- Tarun Choubisa, Sampad B. Mohanty, Kodur Krishna Chaitanya, Mohan Kashyap, Sridhar A, Akshay Singh P. Vijay Kumar, Fellow, IEEE, “A reduced-complexity, reduced-power camera system for intrusion classification in an outdoor setting”, VisionNet - ICACCI, Manipal, 2017 [**BEST PAPER**] [[PDF](#)]
- Tarun Choubisa, Mohan Kashyap, RN Rithesh, Sampad B Mohanty, “Direction and gender classification using convolutional neural network for side-view images captured from a monitored trail”, IEEE ICIIP, Shimla 2017 [**BEST PAPER**] [[PDF](#)]
- Tarun Choubisa, Sampad B. Mohanty, Mohan Kashyap, Kodur Krishna Chaitanya, Sridhar A, P. Vijay Kumar, Fellow, IEEE, “LITE: Light-based Intrusion deTection systEm Using an Optical-Camera and a Single Board Computer”, LCN Demos Track, IEEE LCN, Singapore, 2017 [[PDF](#)]
- Tarun Choubisa, Mohan Kashyap, Sampad B. Mohanty, P. Vijay Kumar, Fellow, IEEE, “Comparing chirplet-based classification with alternate feature-extraction approaches for outdoor intrusion detection using a PIR sensor platform”, ICACCI, 2017 [[PDF](#)]
- Tarun Choubisa, Sampad B Mohanty, Mohan Kashyap, Shivangi Gambhir, Kodur Krishna Chaitanya, A Sridhar, P Vijay Kumar, “An Optical-Camera Complement to a PIR Sensor Array for Intrusion Detection and Classification in an Outdoor Environment”, SenseApp-IEEE LCN, Singapore, 2017 [[PDF](#)]
- Himansu Sekhar Pradhan, Sampad Bhushan Mohanty, Santosh Madhukar Yerme, Paresh Govind Kale, Debiprasad Priyabrata Acharya, “Embedded System for mine process monitoring in a network constrained environment using wireless communication bridge”, ICMOCE, IIT Bhubaneswar, 2015 [[PDF](#)]

Google Scholar Link: <https://scholar.google.co.in/citations?user=yMVEKssAAAAJ&hl=en>

Skills and Awards

Awards and Achievements

- Qualified(with 47 others) for interview in [Tata Institute of Fundamental Research](#) GS-2017 for graduate studies in **Systems Sciences** | 2017
- Attended monsoon School on **Physics of Life** 2017, conducted by National Center for Biological Sciences, Bangalore

- Selected for **Winter School on Quantitative Systems Biology**, 2017 conducted by International Center for Theoretical Sciences, Bangalore.
 - Nominated for institute **best M.Tech project** and **best product oriented M.Tech project**. | 2016
 - Nominated and won* best B.Tech project and best product oriented B.Tech project | 2015
 - Top 10 innovations in **Intel Innovate for Digital India Challenge** for smart city solutions product [Aurassure](#) | 2015
 - Certificate of Appreciation by director of institute for excellence in undergraduate level research project (BalloonSat) | 2015
 - Medhabruti scholarship - Department of Higher Education, Odisha for poor and meritorious students | 2012, 2013, 2014
 - All India Rank 95 (about 1Lac test takers) in National Entrance Screening Test | 2011
 - 1st Position - Spring Festival, NIT Rourkela - group dance competition in which I implemented my **LED ART Project** | 2014
 - CBSE Merit Certificate in Science for scoring in **top 0.1 percentile** in All India Secondary School Examination | 2008
- *Awarded to my B.Tech project partner as it can only be awarded to graduates of 2015 batch.

Technical/Teaching

- Programming languages – Python > JavaScript > Ruby > C++ > Unix > Matlab > R > PHP > Go Lang > Java
- Knowledge of domain specific libraries – ROS, OpenCV, SciPy, Sklearn, Pandas, Flask
- Embedded systems – Atmel AVR ,8051,PIC,ESP8266, ARM M3/M4 | FreeRTOS, Contiki
- Image and signal processing, digital communication, WSN / IoT and autonomous robots.
- Taught embedded systems at robotics and automation society.
- Tutored mathematics and physics to higher secondary school students.
- Conducted electronics and robotics workshops at secondary schools.
- Conducted embedded systems workshop using BBC Micro:bit and a Gesture controlled car at IISc Open Day.
- Developed institute's electrical and civil complaint management system for ease and benefit of campus residents.

Demos/Talks

- Talk and demo on “Development of an Optical Camera based Intrusion detection and monitoring system”, IoT Workshop, Dept. of ECE, NIT Rourkela [August, 2017]
- Demo of LITE: Light-based Intrusion deTectiOn systEm Using an Optical-Camera and a Single Board Computer”, LCN Demos Track, IEEE LCN, Singapore [October 2017]

Courses Completed/Audited

- Electricity and Magnetism, By Prof. Walter Lewin || MITx / edX || 94.6% || 2013 [\[Certificate\]](#)
- Machine Learning by Stanford University (Prof. Andrew Ng)|| Coursera || 98.8 % || 2016 [\[Certificate\]](#)
- Artificial Intelligence for Robotics by Sebastian Thrun || Udacity || 2015 [Audit]
- Multivariable Calculus by Prof. Denis Auroux || MITOCW || 2013 [Audit]
- DAT208x - Introduction to Python for Data Science || Microsoft / edX || 2016 [Audit]
- Signals and Systems by Prof. Dennis Freeman || MITOCW || 2015 [Audit]
- Linear Circuits 1: DC Analysis || GeorgiaTech / Coursera || 2018 [Audit]
- CS50 - Introduction to Computer Science by Prof. David J. Malan || HarvardX / edX || 2016 [Audit]
- CS75 – Building Dynamic Websites by Prof. David J. Malan || Harvard Extension School || 2016 [Audit]
- Pattern Recognition by Prof. Ratnakar Dash || Computer Science, NIT Rourkela || 2016 [Audit]
- Calculus Revisited Series by Prof. Herbert Gross || MITOCW || 2017 [Audit]
- Introduction to Control System Design – A first look || MITx / edX || 2018 [Audit]

Personal Projects

- Grid solving line following robot using flood fill algorithm
- Music Synchronized LED Art Dance – Won 1st position
- UART Serial bootloader for ATMEGA series of microcontrollers
- I2C, SPI and WS2812 (Neopixel) driver for ATMEGA, PIC and 8051 Controllers by bit-banging GPIO
- FAT16 Driver using python and porting into C for 8051 using SD Card Protocol over SPI
- Fooling 8051 into Princeton Mode and executing code from RAM
- Implementing Serial and SD Card bootloader for 8051
- Understanding FreeRTOS port for 8051.

Thank you for your interest and time, please find my other works and details here - [\[Detailed Work Experience\]](#)