SURYANSH SHARMA

Msc Embedded Systems

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EDUCATION / COURSES

Msc. Embedded Systems, Software and Networking Track

Delft University of Technology, Netherlands

Aug 2018 – Aug 2020 (expected)

CGPA: 8.5 / 10

B.Tech. Electronics and Telecommunication Engineering

M.P School of Technology Management and Engineering, NMIMS University

May 2014 – May 2018 Mumbai, India

CGPA: 3.75 / 4

EXPERIENCE

Visiting Researcher

Indian Institute of Science(IISc)

July 2019 – Aug 2019 Bangalore, India

- Worked with the Zero Energy Networks (ZEN) Laboratory at IISC on a low-cost, low-power, acoustic intruder detection system which used a BLE mesh network as its backbone.
- The work involved hardware and embedded software design for the low cost nodes. It also included applying Machine Learning on them as edge devices to detect intruders and relay this information on an adhoc network formed by the BLE enabled nodes (based on NRF52840)

Control and Software Engineer

Team Silverwing(Silverwing Aeronautics B.V.)

Sept 2018 – July 2019 Delft, Netherlands

- Worked on developing the flight control system for an autonomous battery powered personal flying vehicle (VTOL) being developed by Silverwing Aeronautics as part of the Boeing GoFly 2020 competition.
- I was responsible for working with the MAVlink protocol as well as I2C, CAN, Serial and SPI protocols. The work involved embedded hardware and software design as well as developing the various subsystems of the aircraft.

Electronics Mentor and Facilitator

Makers' Asylum

July 2017 – June 2018 Mumbai,India

- Mentored and organized Stitch Hackathon in Singapore for high school students
- Conducted the Hands-on Electronics and Arduino module as part of the Rapid Prototyping course every month
- Lead Open Source Project Build groups to develop design thinking and build projects like table top arcade, Animatronic Face, Mood dependent colour changing lamp, et cetera

HONORS & AWARDS

- CERN HPD Summer School Innovation best pitch award, 2019
- Runner up, EU's DigiEdu Hackathon, Gamification Track, 2019
- Semifinalist Texas Instruments' India Innovation Challenge, 2017
- Winner, Royal Academy, UK's Engineering Tech Challenge, 2017
- Top 10 teams, SAS' Business Analytics and Data Mining Championship 2017
- 2nd Runner up, i-Hack, IIT Bombay's Hackathon (Hardware Track), 2016
- International Award For Young People (Duke of Edinburgh Award) - Bronze

PROJECTS

Balls for Walls: A smart acoustic wireless sensor network for virtual fencing

- Developed a low cost surveillance solution in collaboration with the Indian Institute of Science to monitor and detect human activity at borders using acoustic localization on an embedded platform.
- Designed and implemented custom hardware based on NRF52840 SOC, detection algorithm for detection at edge and LoRa and BLE mesh communication.

Quadcopter flight control and communication software

- Developed in a team of 4, the software required to enable autonomous as well as controlled flight of a custom quadcopter as part of the embedded software course. Also designed a custom networking and communication protocol between the drone and the base station as well as the control software.

3D-Printed custom trans-radial prosthetic arm

- Worked on ARM Cortex M4 for actuating hand motion and implementing machine learning algorithms to enhance accuracy and decrease learning time in amputees.

SKILLS

C/C++, Python, Java, Android, Embedded programming ●●●●●

ROS, MATLAB, Simulinnk, RTOS, Linux, Network stack ●●●●○

Base SAS, MySQL, Spark, Scala, Enterprise Miner ●●●○○

Fusion360, KiCAD, 3D Printing ●●●●●

EXPERIENCE

Embedded Software Developer

Tumour Trace

May 2067 – July 2016 Mumbai,India

- Part of the embedded software design team and responsible for developing a system to integrate their novel cost- effective way of diagnosing cancerous cells in a sample of tumour
- The project was based on the open source Raspberry Pi board and relied on C/C++ programming for interfacing and for incorporating their algorithm

Embedded Systems Intern

Curiosity Gym

Sep 2015 – Feb 2016 Mumbai,India

- Responsibilities included working with the makerspace to aid in organizing events, meetups and workshops. Lead Electronics Project teams to aid in building prototypes
- Built an Electronic Laser Harp which was featured in the top 6 projects at National MakerFaire - Maker Mela 2016

Vice Chair - ACM (MPSTME Chapter)

Association for Computing Machinery

August 2015 – May 2016 Mumbai,India

- As Vice chair I reorganized the student committee into special focus groups which were encouraged to take up live projects and skill building activities.
- Inspired by the Maker Movement, we promoted a hands-on model of learning. My key focus as head of publicity was to develop interest and awareness about the various computing technologies and platforms available and under research.
- My team worked on promoting coding and introducing students to the various aspects of computing machinery (3D Printing and designing, Embedded systems, Cyber security and cryptography, etc)

INTERESTS

DIY Electronics and Hardware projects

- As an early patron of the Maker revolution, I have always been deeply interested in DIY technology and projects.
- I particularly enjoyed making my own 3D Printer in the early 3d printing days from parts I found during my trip to china. This sparked a strong interest in the rapid prototyping world and I often found myself spending time at my local makerspace and at fab labs abroad.

3D Printing and Designing

- I really like 3d modelling small and useful artifacts for my needs around the house. I also 3D print to supplement my DIY electronics projects.
- The world of 3D printing fascinates me and anchors my interest through the myriad possibilities it opens up for an engineer.

Skiing

- Skiing for me is a liberating experience both in terms of feeling the adrenaline rush as well as overcoming the innate desire to be in absolute control.
- I enjoy the pristine beauty that the pistes have to offer when one is mindful of their surrounding while gliding down a slope.

VOLUNTEERING

Embedded Design Volunteer

Quantum BV, Delft, Netherlands

November 2019 – Present

- Quantum is a startup based in delft which works on providing low income families in Guatemala and Africa with affordable thermometric kettles which can be used as LED lighting.
- Design and develop the electronics in the kettle as well as an authentication system for payment in these countries.

Local Volunteer

Inloophuis Debora, Delft, Netherlands

Aug 2019 – Present

- Worked with the inloophuis in delft to upgrade and maintain their IT and networking infrastructure and problems.
- Also working with them to update and maintain their website.

Research & Development Volunteer

Enactus, MPSTME, Mumbai, India

Aug 2015 – May 2016

- Part of the Research and Development team at my university's local Enactus chapter working closely with several women communities in Mumbai.
- The project titled Parivartan was aimed at developing a self sustained social business model converting waste saw dust into pencils (manufactured by our beneficiaries). We also educated their children by providing a basic STEAM education as a part of our project.

Environmental Intern and Volunteer

Tsinghua University, Beijing, China

May 2015 – July 2015

- Worked with other interns to conduct lectures on Environmental Protection in the School Attached to Tsinghua Univeristy
- Coordinated a student rally in association with the local government to spread environmental awareness and consciousness

LANGUAGES

- **English** (Native or Bilingual Proficiency)
- **Hindi** (Native or Bilingual Proficiency)
- **Chinese** (Elementary Proficiency)
- **Japanese** (Elementary Proficiency)