

Vinay Raj

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EDUCATION

Cluster Innovation Centre, University of Delhi–Delhi

B.Tech in Information Technology & Mathematical Innovation - Aggregate: 64.89% (Till 7th Semester)

INTERSHIPS AND WORKSHOPS

- Research Intern at IIIT, Delhi** <https://github.com/vinayraj01/Boat-for-measuring-water-quality-> **Jan 2019 - Present**
- Worked on a geolocation-based boat from scratch for measuring water quality index for after-flood scenarios
 - Designed the model of the boat in Solidworks and fabricate it.
 - Worked with Arduino and A7 Thinker GPS/GPRS module
 - Used turbidity sensor to measure water quality data which was later sent on IoT protocol
- Summer Intern at IIIT, Delhi** **May 2018 – Aug 2018**
- Worked on an GPS based unmanned ground vehicle (UGV) used for carrying tools & communicate with drone
 - Worked on PixHawk2 (Cube) architecture for the vehicle which gave feed to mission planner
 - Used Vesc tool which configured ESC for the BLDC motors
 - Live demo is available at: <https://www.youtube.com/playlist?list=PL1tEkfXlt6aF1SdIMXsdfWKq3hwcm0cbb>
- Participant at Delhi Design Innovation Bootcamp** **Sep 2018 – Oct 2018**
- Shortlisted for this startup initiation bootcamp jointly organised by IIT-Delhi, SPA and DU
 - Followed the various stages of idea formation: “Ideation, Brainstorming and continuous Prototyping” to develop a working prototype to demonstrate the proposed solution to a real-world problem
- Internship at Imfundo** **May 2016 – Aug 2016**
- Developed a self-help robotic educational kit for school children
 - Fabricated mechanical components of the kit
 - Designed a compact product package for the kit

SKILLS

Software Packages: Solidworks, Autodesk Eagle, MS Office

Domains: PCB Circuit Design, 3d printing, Designing, Fabrication, Optimization of mechatronic & IOT systems

Architectures: RaspberryPi, Arduino

Programming: C (basic), HTML, CSS, Bootstrap

PROJECTS

Autonomous e-rickshaw system (2018)

Created an autonomous system for an e-rickshaw. Worked on steering and brake control system using SDC 1130 motor controller.

Automatic water tank filling powered by solar energy (2017)

Implemented on IOT protocol using NodeMCU and solar panel. The water level was sent to the mobile app by NodeMCU.

Innovative 3D-Scanner (2017)

Designed an innovative 3D scanner which creates a 3D model of the object using several photos, the model is then converted into a STL which can be printed using a 3D printer.

3D-Printed Prosthetics (2016)

Designing smart prosthetics for 3d printing which would bring down the cost of existing prosthetics to increase their reach and acceptance. My work included assembling and setup of the 3D printer.

ADDITIONAL

- I maintain a youtube channel (Creative Mechatronics) for promoting hardware projects which has 100+ subs (Created in January' 19)
- Selected as a mentor for “Gifted Education Project”, commissioned by the Office of Principal Scientific Adviser, Govt. of India
- Lead Organizer of Blitzkreig, a inter-university robotics festival organized by the college
- Recipient of Rs 12000 as stipend by Delhi University for executing an R&D based Innovation Project