

# Aditya Kumar Singh

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## Education

### National Institute of Technology Tiruchirappalli

Tiruchirappalli, Tamil Nadu, India

BACHELOR'S DEGREE IN ELECTRICAL AND ELECTRONICS ENGINEERING

Jul 2017-Present

- Secured a CGPA of 8.82\* out of 10

### Kendriya Vidyalaya Tatanagar (CBSE affiliated)

Jamshedpur, Jharkhand, India

HIGHER SECONDARY EDUCATION

Apr 2016-Mar 2017

- Secured 92.6%

### Kendriya Vidyalaya Tatanagar (CBSE affiliated)

Jamshedpur, Jharkhand, India

SECONDARY EDUCATION

Apr 2015-Mar 2016

- Secured 95% in Tenth grade

## Academic Achievements

- Secured 1<sup>st</sup> place in Eleckart, a circuit designing event, at IIT-M Shaastra'20 a National Level Techno-management fest.
- Secured 1<sup>st</sup> place in SCDC, a circuit designing event, at IIT-M Shaastra'20 a National Level Techno-management fest.
- Secured 4<sup>th</sup> rank in eYRC-2018, a National Level Robotics Competition organized by e-Yantra, IIT Bombay.
- Finalist of Sangam, an intra-college Hardware Hackathon in Pragyan'19 (The International Techno-Management Festival of NIT-Trichy).

## Projects

### Summer Internship under Prof. Kavi Arya at e-Yantra, IIT Bombay

e-Yantra

#### Bio-Inspired Sub—Carangiform FishBOT

May. 2019 – Jul. 2019

- The project's aim is to design, develop and build a bionic sub-carangiform fish robot that can swim effectively and is controlled through a remote. The robot will have all basic features of a fish i.e. to go forward, take turns with variable radius and speed. The robot is cost effective and has a battery backup of about 30 minutes.
- **GitHub Link:** <https://github.com/adityasingh3007/Bio-Inspired-Sub-Carangiform-FishBOT>

### AntBOT

e-YRC - 2018

Image Processing, 3D Designing, PID Control, Path Planning Algorithms

Nov. 2018 – Mar. 2019

- To understand the cooperation and coordination in the work performed by the ants, we aim to make BOT which will depict the work of a single ant. The BOT will collect leaves, honey, wood from the Shrubs Area and store it for winter and/or remove the trash from its Ant Hills. The BOT will follow a pre-defined black path (same as path left by ants while traveling to collect supplies so that their fellow ants can follow it).
- **GitHub Link:** <https://github.com/adityasingh3007/AntBOT>

### Portable Braille

Image Processing, Braille System (Grade 1 and Grade2)

Dec. 2018 – Mar. 2019

- The project's aim is to make a Portable Braille system as an assistive reading device to solve the problem of unavailability of many of the books and texts in Braille script. The camera captures the image in front of it and using 'pytesseract' data from the image is extracted and actuated on a braille terminal.
- **GitHub Link:** [https://github.com/adityasingh3007/Portable\\_Braille](https://github.com/adityasingh3007/Portable_Braille)

### Gesture Controlled Wireless Game Controller

IR Communication, NEC Protocol

Sep. 2018 – Oct. 2018

- The project's aim is to make a controller to play various games on Desktop/Laptop such as Asphalt, using IR communication. The gestures can be reprogrammed to play various games with various controls.

### Spider Tronix Induction Portal

HTML, CSS, PHP, MySQL, JavaScript, Web Hosting

Apr. 2019-Jul. 2019

- Designed and maintained the complete portal for the inductions process of Tronix domain of Spider R&D Club. The portal has features like grading, results declaration, announcements making etc. Frontend was handled by using JavaScript and the backend was handled by using PHP. Database was handled by using MySQL. The portal was hosted on Digital Ocean server.

### MINI PROJECTS

#### Lumigma

Morse Code, Embedded C

Mar. 2018

- A simple system for communication between two laptops using Morse Code. But to keep it simple Morse code will be transmitted by flashing Laser Light from the transmitter side and will be detected by LDR placed on the receiver side.

Morse code is used to keep the messages secure.

## FatLady

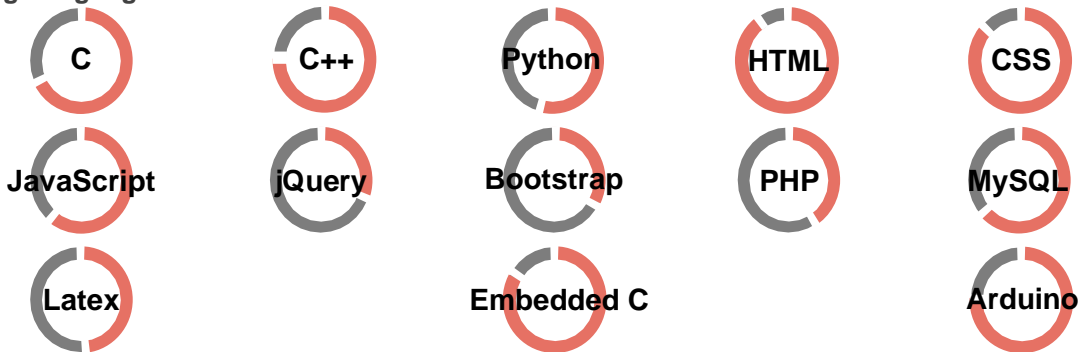
Embedded C, Home Automation

Mar. 2018-Apr 2018

- Just like how Fat Lady guards the entry to the House Rooms of Hogwarts School of Wizardry (Harry Potter), in a similar way this project aims to develop a full proof security system so that it will only give access to authorized personnel inside a room. The person has to type in a passcode in whenever he wants to enter/exit the room because only then the gate will be opened. Also, the room has a modified form a visitor counter in it which can count the total number of persons inside the room at a time.

## Skills

### Programming Languages



### Simulation and PCB Designing Software



### Other Tools and Technologies



### Languages Known



## Position of Responsibility

### President, Spider R&D Club of NIT-Trichy:

Apr. 2020 – Present  
Member since Jul 2018

Have participated in the projects/activities related to Embedded Systems, Robotics and Control, Signal Processing and Machine Learning through various national and college level competitions.

### Workshop Coordinator, Currents:

Aug. 2018 - Present

Currents is an annual Electrical and Electronics Engineering department's symposium NIT-Trichy. Organized and conducted the various workshops during Currents'19.

### Web Operation Team, Currents'19:

Dec. 2018 – Feb. 2019

Helped in making the website for Currents'19, annual Electrical and Electronics Engineering department's symposium NIT-Trichy.

## Extracurricular Activity

- Won 1<sup>st</sup> Prize in Carrom in Sportsfete-18, an inter department sports fest of college.
- Member of college's Carrom's Team.
- Part of the NSO team of NIT Trichy.