

# UNNIKRISHNAN R. MENON

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## Education

### B.Tech in Electrical and Electronics Engineering

02/2017 – Present

Vellore Institute of Technology, Vellore  
Current CGPA (3 semesters): 8.62

### Class 12 Board Examination (CBSE): 94.2%

2017

Summer Fields School, New Delhi

### Class 10 Board Examination (CBSE): 10 CGPA

2015

Summer Fields School, New Delhi

## Research Interests

- Artificial Intelligence
- Machine Learning
- Cryptography
- Computer Vision
- Socket Programming
- Astrophysics
- Reinforcement Learning
- Genetic Algorithm

## Technical Skills

- **Electronic Prototyping Platform** – Arduino, Raspberry Pi, Microcontroller Model 8051
- **Programming Languages** – Python, C++, C, Java, GoLang, Assembly x86 - MASM
- **Mathematical Packages** – MATLAB, R
- **Typesetting Software** – L<sup>A</sup>T<sub>E</sub>X
- **Other** – TensorFlow, Keras, OpenAI Gym, NumPy

## Work Experience

02/2019 – Present

**Technical Head of Electrical Department**  
roboVITics, the official robotics club of VIT

07/2018 – Present

**High Power Circuit Designer**

*The team designed a 120 lbs combat robot that has performed well in international RoboWars*  
**Achievements**

- Finished in top 7 internationally at RoboWars, TechFest'1, IIT Bombay
- Secured third position in RoboWars, Kurukshetra'19, Anna University

12/2017 – 02/2019

**Core-Committee Member**

roboVITics, the official robotics club of VIT

- Successfully completed multiple robotics projects involving Machine Learning, Computer Vision, Artificial Intelligence, IoT etc.

# Achievements

## 6 Near Earth Object Observations (All India Asteroid Search Campaign) 2016

*I used a software called Astrometrica to detect potential celestial objects and I ended up spotting 6 Near Earth Objects (NEO's)*

## Winner of Developer's Sprint of Code Hackathon by CodeChef 02/2019

*Secured the First Position in this 36 hour Hackathon. I worked on the hardware and a facial emotion recognizer for an electoral system that eliminates majority of the problems in the existing system*

## Quora Top Writer 2018 01/2018 – Present

*Got the coveted Top Writer's Quill on my Quora profile for writing quality technical content. Got New York Time's subscription and a t-shirt as a reward from Quora*

# Personal Projects

09/2019 – 10/2019

## Path Prediction for Smart Vehicles

- A Path Prediction Algorithm which forecasts future path taken using RNN–LSTMs and on top of that optimizes the predicted trajectory using Deep Q-Learning Algorithm.

08/2019 – Present

## Riff–Raff Encryption

- Decimal (Negative/Positive,Unranged) Encryption for Unbreakable, Impenetrable Security.

12/2018 – 02/2019

## Self Learning Crawler

- This bot combines the Q Learning algorithm with a robotic arm to come up with an optimum policy for moving forward

05/2019 – 12/2019

## RSA Encrypted Password Online Storage

- This code can be used to save your passwords or other confidential data remotely to a server with a layer of RSA encryption (coded from scratch) without any worries of it getting hacked.

02/2019 – 02/2019

## Comprehensive Electoral Solution Suite

- Secured First Position in DEVSOC'19

01/2019 – 02/2019

## Prepaid Energy Credits based Power Distribution System

- Machine learning based algorithm for predicting power usage in a common household.

10/2018 – Present

## AI Development for Video Games

- Deployed genetic algorithms and other advanced reinforcement learning algorithms in various Video Game environments like Super Mario, Pacman, Snakes, Flappy Birds etc.

05/2018 – 06/2018

## TensorFlow ChatBot

- An RNN and LSTM based Chatbot that responds well to meaningful queries.

02/2018 – 04/2018

## Autonomous Rubik's Cube Solver

- Developed an algorithm in under 800 lines of C++ code that predicts the correct moves to solve a scrambled  $3 \times 3 \times 3$  Rubik's Cube.

## References

**Awnon Bhowmik, College Laboratory Technician**  
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