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 (6 semesters): 8.40

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

- Cryptography
- Artifical Intelligence
- Quantum Computing
- Computer Vision
- Reinforcement Learning
- Astrophysics
- Socket Programming
- Genetic Algorithms

Technical Skills

- **Microcontroller** – Arduino, Raspberry Pi, 8051 Assembler, Nexys4 DDR Artix-7 FPGA, NVIDIA Jetson Nano
- **Programming Languages** – Python, C/C++, Java, Javascript, Assembly, Verilog, CUDA
- **Mathematical Packages** – MATLAB, R
- **Typesetting Software** – LaTeX
- **Other** – TensorFlow, Keras, OpenAI Gym, NumPy, Qiskit

Publications

1. Menon, U., Hudlikar, A., and Panda, D. (2020). Scytale - an evolutionary cryptosystem. *International Journal of Computer Science and Network*, 9(4):153–159
2. Bhowmik, A. and Menon, U. (2020c). Mes – modern encryption standard. *International Journal of Computer Applications*, 176(36):21–27
3. Bhowmik, A. and Menon, U. (2020a). Dragon crypto – an innovative cryptosystem. *International Journal of Computer Applications*, 176(29):37–41
4. Bhowmik, A. and Menon, U. (2020b). Enhancing the ntru cryptosystem. *International Journal of Computer Applications*, 176(29):46–53

Extracurricular

Technical Advisory Board 02/2020 – Present
roboVITics, the official robotics club of VIT

Technical Head of Electrical Department 02/2019 – 02/2020
roboVITics, the official robotics club of VIT

High Power Circuit Designer 07/2018 – 01/2020
Team Orcus,
Designed a 120 lbs combat robot that has performed well in international RoboWars.

- Finished in top 7 internationally at RoboWars, TechFest'18, IIT Bombay
- Secured third position in RoboWars, Kurukshetra'19, Anna University

Core-Committee Member 12/2017 – 02/2019
roboVITics, the official robotics club of VIT

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

Achievements

Winner of Urban Innovation Track at HackMIT 2020 09/2020
Developed a Reinforcement Learning Algorithm for project NavScape and won the Urban Innovation Track prize.

Winner of HackerTech 2019 12/2019
Secured First Position in this 24 hr long Hackathon where I worked on project SPARC (Smart Power Allocation using Reinforced Clusters).

Winner of VIT Hack 2019 09/2019
Won VITHack organized by VIT University in collaboration with Honeywell

Access Denied Hackathon 2019 03/2019
Got Special Mention price in Logistics and Transportation from GitHub.

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 a ingenius electoral system.

Quora Top Writer 2018 01/2018
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

6 NEO Observations (All India Asteroid Search Campaign) 2016
Used Astrometrica to detect potential celestial objects and ended up spotting 6 Near Earth Objects.

Personal Projects

03/2020 – 04/2020
Self learning Quadruped

- Augmented Random Search Algorithm based AI that teaches a robotic quadruped to walk.

01/2020 – 02/2020
Sudoku Vision

- An application that can detect sudoku puzzles placed in front of a camera and solves them in real time automatically.

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. (Patent Pending)

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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CUNY Borough of Manhattan Community College
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