Archit **Rungta**

Sophomore Undergraduate Student

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Education

Indian Institute of Technology, Kharagpur   *Kharagpur, India*

INTEGRATED M.S. IN MATHEMATICS AND COMPUTING | CUMULATIVE GPA : 9.47/10   *Expected May 2023*

- Achieved a top 0.1 percentile rank in JEE examination taken by 1.6 million aspirants.

Projects

Virtual Hand.

RECONSTRUCTION OF HAND IN 3D SPACE   *December 2017 – March 2018*

- Made a glove that uses IMU sensor to map the entire hand with all its motions. As a sample use, created NEAT neural networks to learn sign language symbols and interpret. The project was coded in C++ and Python. **Demonstration**

arcMiners

GPU CRYPTOCURRENCY MINERS   *March 2014 - April 2016*

- Made the first GPU miner for the keccak POW algorithm, and Protoshares momentum POW based on existing miners utilizing CUDA for Nvidia GPUs and OpenCL for AMD. Later, made a new miner from ground up focusing on modularity and abstraction.
- Cumulative profit in fees is over **USD 100K**. **Github**

Monero Pool

CRYPTOCURRENCY MINING POOL   *May 2014 - July 2014*

- One of the two contenders for mining pool for Monero. Includes a Redis based data storage system as well as a front end. Designed for maximum utilization of multi core CPU by sharing work among hundreds of threads at once. Written in C#, C++, PHP and JS. **Github**

Research

Aerial Robotics Lab, Kharagpur   *IIT Kharagpur, India*

PERCEPTION UNDERGRADUATE RESEARCHER   *February 2019 – Present*

- Working under **Prof Somesh Kumar** on various autonomous drone navigation related challenges.
- Designed an algorithm based on KNN and other traditional image processing techniques to find dense navigable spaces.
- Along with another undergraduate student, created a non-machine learning based fast method to detect helipads and then precisely land drones in specific orientation using visual servoing. Publication expected soon.
- Part of team whose technical description was selected for special oral session at **International Micro Air Vehicle Competition and Conference 2019**

Skills

Programming Languages

IN ORDER OF FAMILIARITY

- C# • Python • C++ • PHP • C • HTML • PHP • LaTeX • Javascript • • CSS • SQL • Android • Shell • Assembly

Libraries and Frameworks

IN ORDER OF FAMILIARITY

- OpenCV • numpy • scikit-learn • Keras • PyTorch • CUDA • OpenCL

Honors & Awards

2019	**528**th, World Rank in Google code jam 2019 round 1A	
2018	**Top 10**, IBM hosted NLP news classification challenge	*Bangalore, India*
2017	**9**th **Place**, at IOI Training Camp (Final Stage) in India	*Chennai, India*
2016	**Youngest**, at IOI Training Camp in India	*Bangalore, India*

Extracurricular Activity

Debating Society   *Kharagpur, India*

MEMBER   *August 2018 - PRESENT*

- Participate in parliamentary debates on-campus.