Tanishq Jasoria

Senior Undergraduate, Department of Mathematics

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EDUCATION

Indian Institute of Technology Kharagpur

Integrated Master of Science (MSc), Mathematics and Computing [CGPA - 7.29]   *2021*

- MS Dissertation (Ongoing) – Reinforcement Learning for Portfolio Optimization (Cryptocurrencies)
- Relevant Coursework – Algorithms, Object Oriented Systems Design, Discrete Mathematics, Systems Programming, Computer Organization and Architecture, Cryptography and Network Security, Switching and Finite Automata.
- MOOCs – Operating Systems, Computer Networks, Reverse Engineering, Deep Learning, Reinforcement Learning.

WORK EXPERIENCE

Mudrex [YC W19]

Intern – Backend Developer   *05/2020 – 07/2020*

- Streamlined issue resolution pipeline, developing various **monitoring** systems for **latency critical microservices**.
- Reduced trade execution latency by **80%**, **using WebSocket** connections to fetch OHLCV data from exchanges.
- Implemented a system to store trade level data, with an average latency of **70ms**, for **100+ cryptocurrencies**.

Areas: Python, Node.js, Elastic Stack, Redis, Celery, WebSocket, API Development, Algorithmic Trading, Cryptocurrency

Secure Systems Lab, New York University

Intern – Secure Software Development   *05/2019 – 07/2019*

- Improved Uptane to **prevent** rollback and hardware mismatch **attacks**, in case of compromised software repository.
- Enabled **end-to-end encryption** (RSA2048 + AES128) to secure the **software updates** delivered using Uptane.
- Introduced the support to externally **sign** a repository **metadata** by using **hardware security tokens** (PIV/CCID).

Areas: Python, Secure Software Development, Encryption, Public Key Infrastructure, Systems Security

Kharagpur Robosoccer Students' Group

Team Head, Embedded and Control Systems Team   *02/2017 – 02/2020*

- Designed the control architecture based on **Finite State Machines** for coordinated control of RoboCup SSL robots.
- Redesigned the control board to increase the performance by **300%** by introducing **parallelism** using FPGAs.
- Spearheaded a team of **50 students** to win a **Silver Medal** in the technical challenges round at RoboCup 2018.

Areas: Embedded C, Verilog, Multi-Agent Coordination, Finite State Machine, Control Systems, RTOS

SELECTED PROJECTS

Ring | Personal Project   *08/2020 - Present*

Innovated a system to collect and store per minute OHLCV data for **300+ cryptocurrencies** from 5 different exchanges. Working on a module to develop and back-test **Reinforcement Learning** based **trading** strategies on cryptocurrencies.

Wish | Personal Project [GitHub]   *11/2019*

Developed a **UNIX like shell** in C with support for redirection, parallel commands, environment variables and piping.

Block-Identity | IBM Blockchain Hackathon [Presentation]   *12/2018*

Conceptualized an **identity verification system** to minimize paper trails and breach of privacy using a distributed ledger.

Deep Learning Projects | deeplearning.ai [GitHub]   *05/2018 – 11/2018*

Effected Object Detection System (YOLOv2) and Face Recognition System using **TensorFlow**. Deployed **Neural Style Transfer** using Deep Neural Networks and used **Residual Networks** to overcome vanishing gradient problem.

SKILLS

Programming Languages/Packages: Python, C, C++, JavaScript, Rust, x86 Assembly, Verilog, SQL, TensorFlow, Keras
Software/Scientific tool: Git, Bash, serverless, Docker, Redis, Celery, Elastic Stack, Eagle, LTSpice

LEADERSHIP POSITIONS

General Secretary | Space Technology Students' Society   *08/2018 – 04/2019*

Highest executive position; managed finances worth **₹10 lakhs**; managed **50+** corporate associations for sponsorship.

Events and technical Team Head | National Students' Space Challenge   *05/2018 – 05/2019*

Led a organizing team of **60+ students** for the planning and execution of the 8th edition of **India's Largest** Space Tech Fest. Responsible for execution of the prelims in **12 colleges**, leading to a record participation of **2000+** students.

AWARDS AND ACHIEVEMENTS

- Represented IIT Kharagpur's contingent and secured **individual bronze** at the **7th Inter IIT Tech Meet**, IIT Bombay.
- Advanced to the finals, being one of the **top 20 teams**, nationwide in IBM Blockchain Hackathon, IIT Kharagpur.
- Awarded the prestigious **KVPY** fellowship of **INR 4.64 Lakhs** by Dept. of Science and Technology, **Govt. of India**.