Tanishq Jasoria

Senior Undergraduate, Department of Mathematics

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EDUCATION

Integrated Master of Science (MSc), Mathematics and Computing
Indian Institute of Technology Kharagpur *07/2016 - 04/2021*

- 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

Intern – Backend Developer | Mudrex [YC W19] *05/2020 – 07/2020*

- Developed cross-platform analytics engine and APIs for system's performance monitoring, using the Elastic stack.
- Reduced trade execution latency by 80%, by 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, NodeJS, Elastic Stack, Redis, Celery, WebSocket, API Development, Algo Trading, Cryptocurrency

Intern – Secure Software Development | Secure Systems Lab, New York University *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 in TUF using hardware security tokens (PIV/CCID).

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

Team Head, Embedded and Control Systems Team | Kharagpur Robosoccer Students' Group *02/2017 – 02/2020*

- Designed the control architecture based on Finite State Machines for coordinated control of RoboCup SSL robots.
- Implemented RTOS (ChibiOS) for scheduling of various tasks performed by central control board (STM32F407).
- 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, Distributed Systems, Finite State Machine, Control Systems, RTOS

SELECTED PROJECTS

Rehabilitation Robotics | Department of Mechanical Engineering [GitHub]

Innovated a system to record and mimic gait-cycle of lower extremity of human beings on an exoskeleton in real time.

Block-Identity | IBM Blockchain Hackathon [Presentation]

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

Deep Learning Projects | deeplearning.ai [GitHub]

Effected Object Detection System (YOLOv2), Face Recognition System and Neural Style Transfer using Deep Neural Networks and used Residual Networks to overcome vanishing gradient problem in "very deep" CNNs.

wish | A UNIX like shell [GitHub]

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

SKILLS

Programming Languages/Packages: Python, C, C++, Java, Rust, x86 Assembly, Verilog, SQL, TensorFlow, Keras

Software/Scientific tool: Git, Bash, serverless, Docker, Redis, Celery, Elastic Stack, Eagle, LTSpice

LEADERSHIP AND AWARDS

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

Undertook the responsibility for the administration and management of finances amounting to over 10 lakhs ($14000).

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

Mentored a team of 15 Sub-Heads and 40 Junior-Coordinators to organize the eighth edition of India's Largest Space Technology Festival, being responsible for the design, publicity and execution of all the technical events in NSSC.

IBM Blockchain Hackathon- Advanced to the finals, being one of the top 20 teams, nationwide. *01/2018*

KVPY Scholar – Awarded with a fellowship of INR 4.64 Lakhs by Dept. of Science and Technology, Govt. of India. *08/2016*