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REHAN VIPIN

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EDUCATION

Bengaluru, Karnataka **PES University** Fall 2018 – 2022(Expected)

- B.Tech. Computer Science Engineering. CGPA: 9.11
- Received the MRD Scholarship (Top 20% of the batch) for all semesters applicable.
- Selected coursework: Data Structures; Advanced Algorithms; Big Data; Computer Architecture; Databases; Computer Networks; Data Science; Linear Algebra; Unix; Web Technologies; Computational Theory.

EMPLOYMENT

Software Engineering Intern **Ennoventure** **Jan 2021 – Feb 2021**

- Guided the solutions team as part of a technology shift towards Hidden Markov Models and Kalman filters for their main product – "Blockchain and AI based medical supply chain counterfeit detection" for more complex predictions.
- Researched cutting edge development on both and constructed stress tested POCs to aid in product development.

Research Project Intern **PES Innovation Lab** **May 2020 – Aug 2020**

Approximately Private,

- Reduced running time of privacy preserving deep neural networks to 25% of time required by garbled circuits style state-of-the-art, through circuit approximations, cryptographic optimizations and automated neural network pruning.
- Designed a framework to create private, secure and scalable deep neural networks using secure MPC.
- Leveraged Knowledge in Cryptography, Deep Learning, Design and Analysis of Algorithms and Computer Architecture.

Subject Matter Expert **PESU IO** **Nov 2019 – Dec 2019**

Blockchain and cryptocurrency technologies.

- Taught Cryptography, Decentralized applications and Blockchain fundamentals to a batch of 10 university students.
- At the end of the course, the students were able to develop custom cryptocurrency applications from scratch.
- Mentored chosen students through meetups, one-on-one talks and created extra subject material for them.
- Leveraged Knowledge in Cryptography, REST APIs, Python, Test-driven development and Blockchain development.

Selected Software Projects

- **Ransomware suite** (2019-2020) Crypto-Ception is a fully functional cross-platform ransomware written in Python/ Shell script. Developed a detector style antivirus from scratch. Used network and OS concepts.
- **Fast Doodle recognition** (2020) Fourksy is a desktop GUI application that recognizes doodles in real time. Uses Fast-Fourier-Transforms to achieve 2x speed up on convolution operations over default implementation without affecting accuracy. Designed the customized layers from scratch.
- **Container management system** (2020) Cardboard-box, a rootless container management system written from scratch in Go. Allows creating and managing resources (network, processes). Lightweight docker like interface.
- **Open source** (2018+) Regular contributor, in multiple tech stacks. Major contributor at Verless (A static site engine) Managed worldwide contributions as the owner for Styx (A file sharing and chatting site) during Hacktoberfest 2019.

ADDITIONAL EXPERIENCE AND ACHIEVEMENTS

- **Teaching Assistant, Unix 2020**: Was a TA for the Unix course offered to sophomores at PES University. Topics taught involve booting, processes, security. Incorporated interactive learning activities for the first time in the course. Designed the syllabus and assignments and graded them. Included regular team meetings with COO of the university.
- **Semi-Finals, E-yantra 2019:** Reached the semi-finals of e-Yantra, a national level college robotics contest. Top 100 amongst 7000+ teams. Built a disaster relief supply bot using an embedded-C microcontroller and image recognition.
- **Semi-Finals HashCode 2019:** Top 30 teams amongst 350+ teams in the hackathon organized by Microsoft Innovation Lab. Built a WSN cluster to detect forest fires with machine learning, and a web-app to issue notifications.
- **University Clubs (2018+):** Active member in organizing/participating in workshops, meetings, competitions by Open-Source (PESOS), Quantum computing (QForest) clubs and college's center of Information security (ISFCR).

Technical skills

- (Proficient): Python, C, C++, Go; (Familiar): HTML, SQL, JavaScript, CSS, Shell-script.
- (Proficient) Linux, Git, TensorFlow, PyTorch, AWS; (Familiar) GCP, Django, Docker.