Shubhodeep Mitra

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EDUCATION

The National Institute of Engineering, Bachelor of Engineering in Computer Science and Engineering — Aug 2014–May 2018
Grade: 8.74/10
Relevant Coursework: Data Structures, Design & Analysis of Algorithms, Object Oriented Programming, Internet of Things, Operating Systems, Embedded Systems, Computer Networks, Big Data Analysis, Cloud Computing.

TECHNICAL SKILLS

C, C++, Python, Java, Docker, Android, ElasticSearch, Kafka, MongoDB, NumPy, Pandas, Tensorflow, scikit-learn

PROFESSIONAL EXPERIENCE

HPE Aruba R&D, Systems Software Engineer II, Bangalore, India — Aug 2018-Present

- Involved in Design and development of protocols
  - VLAN Translation
  - Multi Zone User based Tunnelling
  - IP Subinterface.
- Enhancements of Multicast protocol IGMP and MLD.
- Involved in CLI Infrastructure development.
- Involved in automation of manual test cases for improved efficiency.

RESEARCH EXPERIENCE

• **India's Smart City Healthcare System –** HPE EDGE Computing Datacenters Research Group — Ongoing
Investigating architecture for city-wide healthcare solutions that aim to connect all the huge apartment and gated societies to provide a quick medical response.

• **Continuous Delivery for Machine Learning using Blockchain –** HPE Aruba Internal — 2020
Proposed a solution using blockchain technology that guarantees the delivery of ML models in each node of the network with authenticating approval.

• **Anomaly Detection in a Network –** HPE R&D University Program — 2018
Proposed a solution using Machine Learning model to find vulnerable protocols and certificates in a flow and suggest industry recommendation standards for each vulnerable protocol and certificate.

• **Forensic Analysis of Security Attacks -** HPE R&D University Program — 2017
Produced a report after conducting research and investigation about computer forensics post attacks.

PUBLICATIONS

• **Novel TLS Signature Extraction for Malware Detection –** *IEEE CONECCT'20* — 2020
Machine learning model deployed on a switch to classify an encrypted flow as malicious using TLS metadata.

• **Smart Wheelchair using IOV** – International Journal of Computer Engineering and Applications • *IJCEA* — 2018
The paper aims to develop a wheelchair that can move autonomously using the Internet of Vehicles (IOV) architecture.

PROJECTS

• **Real Time Parking Spot Notification –** HPE R&D — 2020
Build a solution to publish available Parking Spots on the campus using Computer Vision to track entries and exit of vehicles.

• **Voice Controlled RC car –** Academic Graded Project for IOT class — 2017
Developed a RC car that was controlled using voice commands conveyed by an android app using MQTT protocol.

• **Treasure Hunt App –** Computer Science & Engineering Department Fest — 2017
Built an android app for the treasure hunt event to scan and get clues for the next destination and updating the leaderboard.

• **Student Oriented Residential System –** Academic Graded Project for DBMS class — 2016
Build a website to ease the finding of housings for students in Mysore.

LEADERSHIP

NIE IEEE STUDENT BRANCH - Chairperson - IEEE Computer Society — June 2015–June 2016

- Inaugurated the IEEE Computer Society Student Chapter at The National Institute of Engineering.
- Conducted tech talks, workshops, coding competitions, and hackathon.

CERTIFICATION

deepLearning.ai - Coursera — 2019-2020

- Neural Networks and Deep Learning, Improving Deep Neural Networks, Structuring Machine Learning Projects, Convolutional Neural Networks.