Shubhodeep Mitra

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EDUCATION

Master of Science in Computer Science with **Thesis** August 2022 – May 2024
Arizona State University, Tempe, AZ

- Foundations of Algorithms, Distributed Database Systems, Privacy & Machine Learning.
- A visiting scholar of EMIT Lab working under Prof. Kasim Candan on research related to distributed databases.

Bachelor of Engineering in Computer Science August 2014 – June 2018
The National Institute of Engineering (NIE), Mysuru, India **CGPA**: 8.74/10

TECHNICAL SKILLS

Programming Languages: Java, C/C++, Bash, Python
Framework: SpringBoot, ReactJS, Redux, Android Programming (Java), Kafka, Docker, REST
Databases, and Others: SQL, PostgreSQL, Redis, MongoDB, Firebase, Git, GitHub, Windows, macOS, Linux/Unix

PROFESSIONAL EXPERIENCE

Hewlett Packard Enterprise (HPE), Bangalore, India: Software Engineer II July 2018 – July 2022

- A key contributor to development of next-generation Aruba Core and Aggregator switches with respect to VLAN Translation, Multi-Zone User-Based Tunneling, and IP-Subinterface protocols.
- Moved to different projects to deliver time-critical business features for release. Adapted to changing environments, created project plans, and collaborated with teammates to meet deadlines.
- Optimized Multicast protocol IGMP and MLD, reducing Customer Defect's debugging effort by 80 percent.
- Planned and communicated progress and risks of customer-reported bugs to Project Manager, leading to 98% defect resolution, and high customer satisfaction.
- Awarded first place in a hackathon by solving parking space issues at HPE Bangalore campus, saving employees 30 minutes of commute time each day.
- Recognized patterns of problems in customer production environments, and brainstormed with architects to invent solutions. A patent application was submitted for two innovations.
- A poster on *Applications of ML in Detecting Anomalies* was shortlisted for an internal conference presentation.

RELEVANT PROJECTS

Smart Privacy by Default Filter, CSE 598: ML and Privacy Project Fall 2022

- Developed an ML-kit and openCV based app that automatically identifies people in the background of photographs using face detection and applies an aesthetic preserving filter to protect the privacy of these bystanders.

Discord Clone July 2022

- Developed a web application mimicking channels and chat features of Discord with **React.JS**, **Redux, and Firebase**.

Direction Simulator August 2021

- Computed a direction simulator based on latitude and longitude of two locations - A and B. Produced points on the path connecting A and B at a constant distance interval of 50 meters.
- Implemented in **Java**, fetching data from Google directions API via REST requests.

Real-Time Parking Spot Notification, Hewlett Packard Enterprise January 2020

- Built a system to track 200+ cars entering and leaving campus using surveillance footage, providing real-time parking availability through an Android application.
- Utilized **OpenCV** and **TensorFlow** libraries in **Python** to track cars and update parking count with **Firebase**.

PUBLICATION

Novel TLS Signature Extraction for Malware Detection, IEEE CONECCT July 2020
Researched a solution at Hewlett Packard Enterprise to identify the presence of malware in a network flow from an initial unencrypted Client Hello packet of TLS with 92.4 percent accuracy.

Autonomous Wheelchair Using IOV, IJCEA August 2018
A prototype **Internet of Vehicles architecture** was designed by implementing a wheelchair with an autonomous mobility system that can communicate with hospital infrastructures including elevators and other wheelchairs.

EXTRACURRICULAR EXPERIENCE

Chairperson IEEE Computer Society, NIE IEEE Student Branch, Mysuru, India July 2015 – June 2016

- Planned and organized tech talks, workshops, coding competitions, and a hackathon.
- Oversaw management of events attended by more than 100 students with a team of six volunteers.
- Embraced and endorsed by Hironori Kasahara, IEEE Computer Society President 2018 in leadership.

ACM ICPC India Regionals Delegate, Amritapuri, India December 2016