VAIDURYA MALATHESHA

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Education

University at Buffalo, Buffalo, New York, USA
Master of Science in Computer Science and Engineering — Aug'22 - Present
GPA: 3.0/4.0

BMS College of Engineering, Autonomous under VTU, Bangalore, Karnataka, India
Bachelor of Engineering in Computer Science and Engineering — Sep 2014 - Aug 2018
CGPA: 9.2/ 10.0

Technical Skills

Programming Languages: C, C++, Python, JavaScript, Go, Shell scripting
Packages: NodeJS - express, net, zeromq, jsonwebtoken, passport, scikit-learn, Numpy, Pandas, Matplotlib, Tensorflow
Tools and Technologies: Zebra Embedded SDK, cURL, Apache Avro, Flask server, Apache Kafka, Docker, Kubernetes, Gerrit, Poky Linux, PostgresSQL, Postman, Klocwork, WireShark, Fiddler, C1G2 protocol, LLDP and CDP protocols, CSS, HTML, Git, IBM ClearCase, JIRA, Hadoop, Scala

Professional Experience

Zebra Technologies Pvt Ltd, Bangalore, Karnataka, India
Software Developer II — Nov'20 - Jul'22

- Instrumental in high level design and system architecture of the Zebra's next flagship reader.
- Facilitated in the migration of Apache to Nginx webserver in the reader.
- Added support for RNDIS, Wi-Fi connectivity (WPA supplicant, DHCP client), network services - SSH, SFTP/SCP, DHCP, NTP, IPv4/IPv6 on Yocto i.MX 8M Mini board.
- Implemented TCP socket and ZeroMQ socket communication using NodeJS modules to serve browser requests.
- Coordinated with Test and Validation team to maximize coverage in functional, regression, and sanity testing.

Zebra Technologies Pvt Ltd, Bangalore, Karnataka, India
Software Developer I — Jul'18 - Oct'20

- Delivered pilot evaluation of SmartLens (SL) reader application for one of the largest retail chains in US and Europe.
- Optimized two Zebra proprietary algorithms in RFID readers for faster readability and to operate in different environmental restrictions of RF frequencies [EU and USA].
- Implemented light weight data transfer with Avro serialization thereby reducing the network traffic by one-tenth.
- Document the SL reader application developer notes and outline of the unit testing on each modules developed.

Zebra Technologies Pvt Ltd, Bangalore, Karnataka, India
Software Developer Intern — Jan'18 - Jun'18

Implemented C socket program with NodeJS support to replace page functioning on Java Applets, blocked due to security threats on browsers. The page displays the RFID tags read by the Fixed RFID readers.

Technical Projects

Barcode Decoder Improvement: A Deep Learning project to optimize the decoding time of the barcode scanning on any product. The neural network is trained to identify a barcode with multi-class classification and localization using object detection TensorFlow API and Long Short-Term Memory (LSTM) model. And a model-free reinforced learning agent is implemented on data - barcode type, data, orientation and decode time to predict the frame having barcode.
Tools/Technologies: ZBar, TensorFlow, MobileNet-SSD, ImageNet, DQN algorithm

Smart Torch: Developed a Machine Learning system to locate and track RFID tagged items using read tag information - RSSI, phase, read count, helping to study the buying patterns of the customers in the store and boost sales accordingly. Experimented with K-means clustering, Hidden Markov model with Viterbi algorithm and forward-backward algorithm, boosting algorithms – AdaBoosting, Gradient boosting, and random forest bagging algorithm to improve the accuracy.
Tools/Technologies: TensorFlow, Anaconda

Extra-Curriculum Activities

CSE Graduate Student Association, University at Buffalo
Secretary — Present