Mihir Prashant Kulkarni

mihirpra@buffalo.edu | https://www.linkedin.com/in/mihir-p-kulkarni | (716)-907-9341 | Buffalo, NY

EDUCATION

Master's in Computer Science and Engineering, University at Buffalo (GPA: 3.85) **Aug 2021 – Dec 2022**
B.E in Computer Engineering, University of Mumbai (CGPA: 8.09) **Jun 2016 – Oct 2020**

SKILLS

Languages/ Frameworks: Python, Dart, C, C++, Go, Docker, Redis, Javascript, AngularJS, React.js, Node.js, MongoDB Atlas, core JAVA, J2EE
Databases/ Web Development: MySQL, PostgreSQL, HTML, CSS, MongoDB, Django, GitHub
Libraries: leaflet.js, regular expressions, fluttertoast, crypto, filepicker
Certifications: Qwiklabs certifications for ML APIs, GCP essentials, GCP baseline ML, AI, Azure AZ-900

PROFESSIONAL EXPERIENCE

Software Developer, Shweta Software Systems. *Mumbai, India* **Jun 2020 - Jun 2021**

- Liaised with clients to analyze and confirm requirements for new product development of an Android app for payment tracking utilizing Flutter framework for multiplatform Android development.
- Created an enhanced workflow for GSTIN number data entry by composing an automated Python script using an API to manage data entry for companies associated with GSTIN numbers, reducing task execution time by 34%.
- Collaborated with senior developer, demonstrated concept designs and iterated through various candidates. introduced weekly reports by devising interactive PowerBI dashboards, boosting performance by 20%.
- Constructed GUI and formulated system architecture to seamlessly integrate with employer's main accounting software, overseeing weekly standups to discuss concepts for rapid application development.
- Applied new techniques and removed need for manual data entry, accomplishing a cost reduction of 600,000 INR per month per client, revamping productivity by 17.5%.
- Leveraged agile software development to achieve initial product ready in less than a month, full delivery in five months.

PROJECTS

Airbus ship detection challenge **Aug 2022 - Dec 2022**

- Spearheaded a team of 5 to work on Kaggle challenge dataset, performing ETL and EDA to handle data imbalances and execute data augmentation. Performed weekly review sessions and standups with Dr. Wen Dong.
- Operated on Google Colab to manage 31GB of image data annotated with run-length encoding, to parse to images fed to customized U-net, resnet and convnet models, then benchmarked for performance. Wrote highly efficient queries operating numpy and pandas, achieving a binary accuracy of 93.9% in validation set for ensemble detection algorithm.

Pintos **Aug 2022 – Dec 2022**

- Partnered with 3 OS engineers to understand and build a Linux-based operating system (Pintos), under Prof. Farshad Ghanei, along with documentation and careful auditing of project design.
- Planned out how scheduling is handled by user-level libraries and kernel-level libraries using basic C lang constructs, as well as how concurrency, resource sharing and process prioritization work. Brainstormed with teammates to make key design decisions about architecture, readability and best practices.
- Developed and executed rigorous stress testing dictated by operating system standards, including security, speed, robustness and space optimizations. Reduced memory lookups by up to 50%, utilizing TLBs and relevant page replacement policies.

RAFT concurrency using Go and Docker **Feb 2022 – May 2022**

- Headed a team of 3, advised by Dr. Bina Ramamurthy to compose RAFT concurrency for distributed systems. Conducted weekly meetings to resolve potential issues and ensure agile delivery.
- Assembled algorithm using Go. Achieved full failure tolerance and recovery in less than 100ms of a node going down. Monitored relevant benchmarks under various work conditions.
- Generated a client-server application on top of concurrency toolkit using PostgreSQL and providing access to a scalable API letting clients conduct CRUD operations with ease.

ACHIEVEMENTS

A presentation on Network Embedding as Matrix Factorization

- Gave a talk at a college seminar on deep learning in graph networks. Presented a highly-cited paper from 2018 "Network Embedding as Matrix Factorization: Unifying DeepWalk, LINE, PTE and node2vec".

Top 5 presenters, 'Deterministic and non-deterministic algorithm comparison in pattern recognition'

- Team was selected in top 5 groups in a batch of 300 students and represented approach in class, where a discussion about approaches with dimensionality reduction and application of cutting-edge models LDAM-DRW and symmetric crossentropy, was held.