ABHISHEK VISHWAKARMA

840-231-9952 | abhishekvishwakarma218@gmail.com | Portfolio | LinkedIn | GitHub

Education

Master of Computer Science — Expected May 2025
California State Polytechnic University, Pomona, CA, GPA - 4.0/4.0

Bachelor of Engineering, Information Technology — Jul 2015 – May 2019
Ramrao Adik Institute of Technology (University of Mumbai), Mumbai

Technical Skills

Programming Languages: Python, CPython, Java, C++, Go, BASH/Shell Script, JavaScript, Typescript
Web Technologies: Tornado, Django, Flask, ReactJs, NodeJs, REST, GraphQL, WebSockets
Cloud Technologies: AWS (EC2, Lambda, S3, API Gateway, Step Functions, DynamoDB), GCP, Azure.
Databases: Postgres, Oracle, MySQL, SQLite, MongoDB (NoSQL)
Deployment: Jenkins, Ansible, Terraform, Docker, Kubernetes
Software & Tools: Elasticsearch, Splunk, Redis, Apache Kafka, Grafana, PySpy, Cprofiler, Git, VsCode

Experience

Autonomous Vehicle Lab, Cal Poly Pomona – *Lead Research Assistant* — **Dec 2023 - Present**

- Implemented **ROS2 nodes in C++ and Python** for data collection and configured cross platform vehicle tele-operation using DDS.
- Implemented costmap layers in C++ for navigation and obstacle detection **improving its rate by 25%.**
- Reduced **vehicle breakdowns to 0** by resolving serial communication issues across embedded systems.
- Managed and **mentored 20+** research assistants from diverse areas, was software expert for the vehicle.

Protegrity – *Software Engineer (Data Security Gateway Team)* — **Jun 2019 – Aug 2023**

- Developed a Python-based **PDF data module** from scratch, boosting data processing speed by **1.8x** and streamlined **customer onboarding.**
- Optimized **data throughput nearly upto 15%** of core module by asynchronously processing data for network protocols, ensuring data security compliance.
- Independently **owned product container release** from end-to-end for GCP ensuring **delivery on time.**
- Conducted POCs for **migration of data security modules** to server-less. Demonstrated initial response time reduction for ingress(Envoy/Emissary) **by 10ms** per request over Nginx for Micro K8s.
- **Automated 50+ API tests across 30+ pages** using Postman for tracking front-end integration bugs.
- **Developed and maintained CI/CD pipelines** for product feature releases cutting delivery time by 20% for testing.
- Authored **unit tests** and refactored product, **increasing code coverage by 18%** across multiple releases.
- **Mentored** a team of **3 junior developers** on product architecture, leading to significant backlog reduction.

Projects

Steering Angle Prediction From Road Lanes | *OpenCV, Python, TensorFlow* | GitHub — **Jun 2024 - Present**

- Developed a CNN architecture inspired by NVIDIA's self-driving vehicle model using TensorFlow.
- Trained and fine tuned model hyperparameters, achieving an MSE of 0.002, 94.36% accuracy, and an F1 score of 0.92 on unseen data.

Real-Time Vehicle Telemetry Dashboard | *Django Channels, WebSockets, Redis, PostgreSQL* | GitHub — **Sep 2024**

- Built a real-time dashboard to visualize sensor data and vehicle position, reducing manual command usage by 80% and boosting efficiency significantly.

KarmaKart | *React, Javascript, Redux* | GitHub — **Jun 2024**

- Developed a dynamic shopping website using React. Redux for state management and dummyjson for data to speed up the development process significantly.