

Adhil E

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PROFESSIONAL EXPERIENCE

ZOMATO

Software Developer

Jul 2022 – Jan 2024 | Bengaluru

• Order Assignment Service

- Key contributor to the **Order Assignment Service**, the microservice responsible for seamlessly delivering optimized driver assignments for orders across ~1200 cities, operating concurrently with a **30-second** interval.
- Reduced **Delivery Time** breaches in inclement weather by ~2 minutes to improve **User Experience** and **Order Assignment** by designing a **Realtime Driver Speed** signal that responds to environment changes instantly
- Reduced **Driver Wait Time** to improve operational efficiency by implementing time correction features leveraging historical correction factors obtained via **Apache Kafka** from **Python Jobs** triggered by scheduled **Airflow ETLs**
- Enhanced system efficiency by migrating critical API-driven processes to streamlined event-based workflow with **MongoDB** as primary storage, mitigating the impact of downtimes on external services
- Boosted accuracy by ~5%, improved **Driver Utilization** by **0.3 minutes** by integrating in-memory **Light GBM** ML models for distance and time prediction that are fetched on-demand from **AWS S3**, replacing external **gRPC** calls
- Reduced assignment job time by ~1 second by implementing an asynchronous **Kafka** flow for efficiently pushing batching analytics data using **Protobufs**
- Enhanced system reliability by eliminating **shared DB queries** from the service, migrating them to **HTTP** calls, and implementing **Redis** fallbacks to handle failures.

• Logistics Simulation Service

- Substantially contributed to the development of **Logistics Simulation Service**, a robust load testing framework to comprehensively test the entire **Logistics Delivery Flow**
- Set up the entire data pipeline flow to synchronize and update all relevant **SQL and NoSQL** databases for simulating and analyzing behavior under various **load** conditions.
- Implemented mock **gRPC** servers for essential external services and integrated high-throughput critical **App APIs**, achieving a peak throughput of ~100k RPM
- Achieved **10x** the highest traffic ever recorded in production by enhancing system's capability to replicate production-like traffic peaks

CATERPILLAR

Software Development Intern

Jun 2021 – Jul 2021 | Chennai

- Achieved an accuracy score of **0.82** by implementing a **DL model** for semantic segmentation of engine point cloud using **PointNet** Architecture; augmented the data using multiple orientations to overcome the lack of data
- Automated Finite Element Analysis pre- and post-processing steps by building a multipurpose tool using **Python**. Delivered a standalone executable file of the tool using **PyInstaller** to cater to industry requirements.

SKILLS

- **Programming Languages** Golang | Python | Ruby
- **Tools & Frameworks** Git | AWS | Redis | Redash | Airflow | Unity | Ruby on Rails | Docker | Datadog | Mongo Atlas
- **Databases** MySQL | MongoDB | PrestoSQL | DynamoDB

EDUCATION

Indian Institute of Technology ,Madras

B.Tech in Mechanical Engineering | M.Tech in Robotics

2017 – 2022 | Chennai

CGPA 8.68/10

Govt Model HSS,Calicut

Class XII (School Topper)

2017 | Calicut

95 %

Apex Public School Eranjimavu

Class X

2015 | Calicut

CGPA 10/10

COURSEWORK & PROJECTS

Relevant Coursework

Data Structures and Algorithms | Data Analytics with Python |Introduction to Robotics | Differential Equations | Pattern Recognition & Machine Learning| Probability, Statistics and Stochastic Processes

Dual Degree Project

VR Simulation for Robotic Surgery

- Developed a virtually simulated **Robot-Assisted Surgery Training Setup** on **Unity** for **Franka Emika** robot equipped with a surgical tool ,adhering to the **RCM** mechanism for performing minimal incision surgeries
- Created a **VR** setup for training doctors to carry out the Fiducial registration task using **OpenIGTLink** cross-platform linkage between **Unity** and **3D Slicer** for seamless data transfer of registration points

ADDITIONAL INFORMATION

ACHIEVEMENTS

- Selected for the **Inter Disciplinary Dual Degree** program in **Robotics**, making it to the top 25 out of 100+ applicants.
- Achieved **18th** place in Kerala Zone during the 9th SOF **International Maths Olympiad**

SOCIAL INITIATIVES

- Worked on **Project SUYAM**, which aims to provide free education for underprivileged students in Tamil Nadu.
- Headed **Tensors 2018**, a mock JEE examination that attracted a footfall of **3000+** Std. XI and XII students in Kerala.

EXTRA CURRICULAR ACTIVITIES

- Part of Hostel football team, emerging as **Gold Medalists** in Annual Sports Meet
- Engaged in **Informals Club**, actively participating in and hosting board games and informal events