

# Mohit Mayank

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## Work Experience

### Aviatrix

#### Sr. Member of Technical Staff

Champaign, US  
July 2023 - Present

- > Working on building the next-gen observability and analytics pipeline for data at scale in Aviatrix.
- > Added low-level network metrics monitoring to an open-source project called **beLow** which communicates to Kernel network namespace using **netlink**.

**Tech stack:** Rust, Go, Kubernetes, Druid, OpenTelemetry

### Aviatrix

#### Software Developer Intern

Champaign, US  
May 2022 - Aug 2022

- > Worked on enabling a multi-cloud native networking infrastructure with consistent architecture and minimal configuration.
- > Developed a framework for capturing anomalies and analysing the network flow data using ML models and Neo4j graph DB.
- > Designed and implemented robust software upgrades to prevent servers undergoing an inconsistent or irrecoverable state.

**Tech stack:** Python, GoLang, Neo4j, Apache HTTP

### Intuit

#### Senior Software Engineer

Bangalore, India  
Feb 2021 - Aug 2021

##### > Quickbooks Online - Monetisation Services & Experiences

- \* End-to-end ownership of sign-ups - most critical flow in the subscription lifecycle.
- \* Individual and complete ownership of all internal toolings for the org.

**Tech stack:** Spring Boot, AWS, Kubernetes, Django, FastAPI

### Intuit

#### Software Engineer 2

Bangalore, India  
Feb 2019 - Jan 2021

##### > Quickbooks Online - Billing

- \* Created a "Product Catalog Library" to abstract the concept of SKU from the product. This has brought down the time taken for adding new SKUs or new features to a SKU **from several months to an hour or less**.
- \* Automation of more than **50 workflows** across several domains leading to immense increase in engineer productivity.
- \* Migrated the Payroll product from a legacy billing system to the target billing system leading to a reduction of more than **\$3000 per month** with the decommissioning of EC2 servers and database systems.
- \* Migrated a critical service in production with live traffic to Kubernetes with zero downtime and zero production defects.
- \* Added Kafka support in the microservice and migrated multiple APIs to use event bus instead of REST architecture.
- \* Decomposition of billing domain from a monolith to a microservice
- \* Slashed database costs by **\$10,000 per month** by migrating multiple services to Kubernetes & AWS and decommissioning in-house servers.

**Tech stack:** Kubernetes, GoLang, Spring Boot, AWS

##### > Cerebro - An internal application to track competitor's products in the accounting segment market space (**Whitespace project**)

- \* Designed and implemented the backend to fetch the product download statistics, active customer base, latest news articles, press releases related to competitor products
- \* Personalized the application to enable a user to customize the companies he/she wants to track
- \* Trained an NLP model for the curation of relevant articles
- \* This app is used on a regular basis by Product Managers, Managers, and Directors

**Tech stack:** Python, PyTorch, Transformers

### Intuit

#### Software Engineer 1

Bangalore, India  
Aug 2017 - Jan 2019

##### > Quickbooks Online - Sales Tax

- \* Designed a new schema for Sales Tax in Quickbooks Online, migrated 10+ APIs to the new architecture.
- \* Developed a factory pattern independently to migrate the UI plugin to the target architecture with zero interruption to ongoing development to the existing stack.
- \* Implemented e-filing feature in QBO enabling small businesses to file taxes right from the application.

**Tech stack:** Java, REST, GraphQL, Spring, Spring Boot, AWS

### Uncanny Vision

#### Summer Intern

Bangalore, India  
May 2016 - July 2016

- > Created Recurrent Neural Network (RNN) and Convolution Neural Network (CNN) based models to detect the movements of customers in supermarkets.
- > Create a tool using PyQt to annotate the dataset.

## Teaching Experience

### Purdue

GTA for CS541 - Database Systems

West Lafayette, US

Jan 2023 – May 2023

### Purdue

GTA for CS381 - Analysis of Algorithms

West Lafayette, US

Jan 2022 – Dec 2022

### PES

UTA for CS301 - Computer Networks

Bangalore, India

Jan 2016 – May 2016

## Education

### Purdue University

Master of Science, Computer Science- CGPA: **3.98/4**

Indiana, US

2021 – 2023

### PES Institute of Technology

Bachelor of Engineering, Computer Science - CGPA: **9.42/10**

Bangalore, India

2013 – 2017

## Technical Skills

**Languages:** Python | Java | Rust | C | Kotlin | GoLang | HTML/CSS | JS | SQL (MySQL, PostgreSQL, Oracle) | No SQL (MongoDB, DynamoDB)

**Frameworks:** Maven | Spring | Spring Boot | Kafka | Keras | Hibernate | React | Flask | Jenkins | Docker | Kubernetes | Redis

**Others:** REST | GraphQL | AWS | Machine Learning (ML)

## Publications & Patents

### Precedent Case Retrieval Using Wordnet and Deep Recurrent Neural Networks

DOI: [10.5121/csit.2019.91608](https://doi.org/10.5121/csit.2019.91608)

- > Achieved a **Mean Average Precision Score of 0.477**, which beat the previous highest MAP score recorded on that dataset by **22.3%**.
- > This work has been accepted by the [5th International Conference on Data Mining and Applications \(DMAP 2019\)](#).

### Field Property Extraction and Field Value Validation using a Validated Dataset

US Patent No.: [11,010,287](#)

- > Successfully **filed a patent** with the US Patent and Trademark Office.

### A P2P Networking Client

[cueo/p2p](#)

- > Created a P2P networking client from the original BitTorrent protocol whitepaper and unofficial spec.
- > The client supported leeching, seeding and throttling.

### Distributed Cuckoo filters on multiple nodes in Redis

- > Designed and implemented distributed cuckoo filters over a Redis cluster.
- > This implementation showed considerable improvement over the existing Bloom Filters built on Redis cluster.

## Achievements & Extra-curricular

- > Received the **Distinction award** and the **MRD Scholarship** and for academic excellence in all 8 semesters
- > Won **gold medal** in the International Mathematics Olympiad
- > **Best Engineer** award for technical excellence
- > **Co-founder** and problem setter for AlCoding, a competitive **coding club** at PESIT
- > Volunteered to clean beaches and footpaths, paint schools, flyovers and visit elderly homes and animal shelters as part of Collegiate / Corporate Social Responsibility (CSR)