

# Ruturaj Ramchandra Shitole

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## EDUCATION

**Masters of Science, Computer Science**  
*The George Washington University*

**Jan 2024 — Dec 2025**  
*Washington D.C, US*

- Graduate Teaching Assistant for the Systems Programming course. In charge of conducting labs, office hours, and grading.
- Researching on eBPF for Observability and Security in Database servers; implementing Intrusion Detection and Prevention Systems within the Linux Kernel.
- Researching DPDK to develop orchestration tools for network functions and improvise the open-source repository [OpenNetVM](#).

**Bachelor of Engineering, Computer Science and Engineering**  
*Bangalore University*

**Aug 2016 — Sep 2020**  
*Bangalore, India*

## WORK EXPERIENCE (4 YEARS)

**Software Engineer, Synchron**

**Jan 2022 – Dec 2023**

- As an integral part of Synchron.AI team, worked with Data Scientists, Architects, & Engineers to build a platform for Experimentation, Model Training, Inference, Monitoring, Governance, Deployment, & Feature Engineering, reducing the time between inception & delivery of ML Solutions by 60%.
- Developed online and offline multi-tenant Feature Store for supporting ML workflows, serving over 5 million features per tenant, and reducing the run-time of ML Pipelines by 40%.
- Developed event-driven CI/CD pipelines using GitHub Actions and Triggernesh for provisioning artifacts for ML Pipeline Components in various environments, resulting in a 70% faster provisioning of ML Artifacts.
- Within two weeks, built an interactive Top-Down Price Optimisation Application for performing constrained optimization of prices to achieve revenue and profit goals by understanding the underlying mathematics of Lagrange's Multipliers, analyzing customer data, and deploying on Kubernetes (Knative + Istio), leading to a key customer win and bringing in millions in revenue.

**Associate Software Engineer, Synchron**

**Jan 2021 — Dec 2021**

- Developed platform for orchestrating Machine Learning workloads by analyzing proprietary solutions & developing vendor-agnostic architecture using Kubernetes (Kubeflow + EKS) resulting in 90% reduction in operation costs from proprietary solutions.
- Created Python Packages for interacting with Data Lake by analyzing the requirements of Data Scientists and MLOps Engineers, resulting in a smoother experience in both performing EDA(Exploratory Data Analysis) & developing scalable ML Pipelines and reducing the time spent in writing code for data query by 95%.
- Developed end-to-end Pipelines for performing both Statistical and ML use cases like Volume Price Mix Analysis, Customer Segmentation, Affinity Analysis, & Quotation Guidance, automatically generating analytical dashboards for client use, and reducing the delivery time by over 60%.

**Intern, Synchron**

**Jan 2020 — Dec 2020**

- Developed admin for the Business Intelligence (BI) platform for monitoring, alerting, and preventing cross-tenant access in a system of over 100 tenants and thousands of users per tenant.
- Developed backup service for BI software, for managing periodic backups of BI Data Models and Dashboards, making BI reliable for thousands of users spanning over 100 tenants.

## PUBLICATIONS

**eBPF-Based Intrusion Prevention System for Database Servers**  
*IEEE*

**June 2024**  
*Washington D.C, US*

- Attended the **2024 IEEE CloudSummit** conference and presented a poster on building IPS for Database Servers by utilizing eBPF, resulting in the final work being published in the IEEE CloudSummit Journal. [doi: [10.1109/Cloud-Summit61220.2024.00031](#)]

## SKILLS

**Programming Languages**

Python, Go, C, C++, SQL

**Containerization & Orchestration**

Docker, Kubernetes(Kubeflow, Knative, Istio, KServe, ArgoCD, Triggernesh, Helm, Cilium)

**Observability**

OpenTelemetry, Clickhouse, Grafana

**Cloud**

AWS (EKS, Lambda, Glue, SageMaker, Dynamodb, APIGateway)

**Machine Learning**

MLFlow, Pandas, Numpy, Scikit-Learn, Keras, Tensorflow

**Systems & Networking**

Linux, eBPF, DPDK

**Domain Expertise**

Business Intelligence, Machine Learning, MLOps, Systems, Observability, Networking

**Others**

Terraform, GitHub Actions, FastAPI, Serverless, Jupyter