

# ASHIR GOWARDHAN

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## EDUCATION

### Carnegie Mellon University

Master of Software Engineering (GPA 3.96/4.00)

Pittsburgh, PA

Expected Dec 2025

*Relevant Coursework: Cloud Computing, Software Architecture, Applied ML, Agile Methods, Deep Learning*

### BITS-Pilani

Bachelor of Engineering in Electronics and Electrical, Minor in Finance (GPA 8.68/10.00)

Goa, India

Jun 2021

## EXPERIENCE

### eParts Services LLC

Pittsburgh, PA

*Team Lead - Carnegie Mellon Capstone Project*

Jan 2025 - Present

- **Led a 6-member team** to design and implement a **cloud-native multi-tenant data lakehouse** on Snowflake with Medallion architecture, designed for **cloud-vendor portability and extensible data integration**, replacing legacy SQL-based reporting and **reducing production load by 30%**.
- Engineered a **Java microservice** to expose **ML-ready versioned datasets** via **multi-tenant RESTful APIs** with **Auth0/OIDC integration** for security, enabling scalable feature engineering and model training.
- **Architected** a fault-tolerant **CDC pipeline** with **Kafka + Debezium**, enabling batch + real-time ingestion at scale.
- **Automated cloud infrastructure** deployment using **Terraform and Helm**, establishing a reproducible environment enabling **rapid onboarding** of new tenants in less than **3 hours**.

### Silicon Labs

Hyderabad, India

*Software Engineer*

Jul 2021 - May 2024

- **Owned design and implementation** of the Bluetooth Audio Gateway stack in a performance-critical **multi-threaded RTOS environment**, integrating with BT Audio, BLE, and Wi-Fi subsystems; deployed on **10M+ devices globally**.
- **Architected** a memory-efficient **compressed logging framework** that reduced log transfer size by **~80%** on **resource-constrained devices**, using custom C macros with a compile-time Python preprocessor and decoder.
- Developed a **scalable plug-and-play Bluetooth component** by abstracting customer-specific logic, **collaborating with cross-functional stakeholders** (5 teams) to ensure compliance and **reduce future integration effort**.
- **Mentored 5+ junior engineers and interns** through onboarding and code/design reviews, **created onboarding materials**, and **contributed to hiring** by conducting technical interviews.

### BNY Mellon

Pune, India

*Intern*

Aug 2020 - Dec 2020

- Automated **Python/SQL ETL workflows** for 15 client-facing reports, reducing manual effort by **~10 hours/week per report (~90% cut)** and improving data quality with anomaly detection (**~20% fewer errors**).

## PROJECTS

### Twitter Analytics and ETL | Carnegie Mellon University

Pittsburgh, PA | Feb 2025 - Apr 2025

- **Architected and deployed** 3 cloud-native Go **microservices** (Blockchain, QR, Twitter) on **AWS EKS**, serving **RESTful** requests at **125K RPS** with **P99 latency under 5ms** at a lean **\$1.27/hr** cost.
- Engineered a **Spark (Scala) ETL pipeline** processing **1TB+** data (~200M tweets) from Azure Blob, compressing it by **~99%** into **ElastiCache (Redis)** for under **\$5 per run** enabling the Twitter service's recommendation lookups.

### Real-Time Ride Matching and Fare Prediction | Carnegie Mellon University

Pittsburgh, PA | Apr 2025

- Engineered **low-latency stream processing pipelines** with Kafka and Samza on AWS EMR to power **real-time driver matching and IoT-based targeted ads**.
- Built **ML-powered fare prediction services** with XGBoost on Vertex AI, engineering geospatial/time-series features and deploying scalable inference on GCP App Engine; extended the system into a **virtual NYC assistant** using Google Cloud APIs and LangGraph RAG.

## SKILLS

**Programming Languages:** C, C++, Python, Java, Go, SQL, JavaScript, HTML, CSS, Scala

**Frameworks and Libraries:** Spring Boot, GoFiber, Apache Spark, JUnit, Mockito, PyTorch

**Cloud and Data Platforms:** AWS (EKS, ElastiCache, S3, DynamoDB, DAX), Azure (AKS), GCP, Snowflake, MySQL, Databricks, Redis, Debezium, Kafka

**Infrastructure and DevOps:** Docker, Kubernetes, Terraform, Helm, Git, JIRA, CI/CD

**Software Engineering:** Software Architecture, Distributed Systems, Agile/Scrum, Software Project Management

## LEADERSHIP AND ACHIEVEMENTS

- **Secured 3rd place** out of 40 teams in CMU's Cloud Computing Course Competition.
- **Won** Silicon Labs internal Technical Symposium for **innovations in logging optimization** and **test automation**.
- Consulted for CMU's Executive Education program, delivering **training to senior industry professionals** on **software architecture, quality assurance, and agile methods**.