

BINDHU MADHAVA VARMA C

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EDUCATION

Georgia Institute of Technology | MS in Computer Science

Aug 2025-Present

Coursework: *Advanced Operating Systems, RealTime Systems, Machine Learning, Computer Vision*

Vellore Institute of Technology

9.22/10 CGPA

B. Tech in Computer Science & Engineering Specialization in Data Analytics

2019-2023

WORK EXPERIENCE

Shell Private Limited

Aug 2023 – Aug 2025

Associate Software Engineer

- Implemented ETL & automated pipelines processing **1.5B+ rows from Shell reservoirs and wells worldwide**, cutting data availability time from days to minutes and accelerating decision-making across multiple upstream projects.
- Designed **scalable Data mover framework** (ReactJS + Azure Data Factory + Azure SQL) that automated transfer of **200+ enterprise datasets**, saving **\$1.5M annually** and reducing project timelines from **3 months to 1 week (90% faster)**.
- Worked with Azure Data Factory, Databricks, LogicApps, and PowerApps to integrate **10+ global business systems**, enabling seamless data sharing across finance, mobility, and upstream domains.

Andhra Pradesh Technology Services (Government of Andhra Pradesh, India)

Jan 2023 – May 2023

Software Engineer Intern

- Developed **official Landing page for the High Court** of Andhra Pradesh, currently serving **9.7M+ citizens annually** for legal updates, case status, and information access.
- Built Admin Dashboard (ReactJS + PHP + MySQL) managing **5,000+ job postings and tenders** across state departments, streamlining application and review processes.
- Designed **5+ security-training apps** with intentional flaws, used by Red Team to simulate **50+ penetration test scenarios**, strengthening government cybersecurity readiness.

PROJECTS

AI/ML Tools for Liver Transplantation – Georgia Tech & Emory University (Fall 2025, Ongoing)

- Collaborating with Emory physicians on **20+ years of longitudinal clinical, imaging, pathology, and omics data** for transplant decision support.
- Building predictive pipelines including **Transformer DL models** to predict 1–5 yr mortality risk, **RF + ANN** for 30-day graft failure analysis, and **CapsNet + ANN ensembles** to predict HCC (Liver Cancer) recurrence.
- Designing an **AI-driven web interface for nurses and doctors** to visualize datasets and enable data-driven patient prioritization and donor-recipient matching.

GTThreads – Credit based Scheduler | C, Systems Programming, Linux Kernel

- Implemented a **multi-processor user-level threading library** with a **credit-based proportional fair-share scheduler**, supporting **128+ concurrent threads** across 4 CPU cores.
- Designed a **dynamic credit allocation system (25/50/75/100 credits)** with voluntary preemption and **inter-processor thread migration**, achieving **>90% CPU utilization and balanced load distribution**.
- Integrated Linux kernel threading primitives, clone system calls, and processor affinity management to ensure **microsecond-level scheduling precision**.

Entantra – Geolocation-based Advertising Platform

<https://entantra.in>

- Built geolocation-based ad system deployed in **50+ vehicles & shops**, delivering **10K+ targeted impressions/day** via GPS-driven scheduling.
- **Designed full-stack ecosystem** with React/Next.js admin panel (**100+ campaigns, 20+ partners**) and Flutter advertiser app (1K+ ad uploads, 30+ SMB adopters).
- **Implemented on-device algorithms** (caching, GPS tracking, offline sync) ensuring **99.9% uptime** and **reducing ad-play latency by 70%** in low-connectivity zones.

SKILLS

Programming Languages: C, C++, Python, Java, JavaScript, Bash, R, HTML, CSS

Databases: MySQL, PostgreSQL, MongoDB, Apache Hadoop, Hive, DB2

Frameworks & Libraries: React, Node.js, Express, PHP, .NET, Flutter, REST API, WebSockets, Spark, Kafka, ETL

Tools: Git, Docker, Kubernetes, Jenkins, Linux, CI/CD, Azure (Data Factory, Databricks, Functions), AWS (Glue, S3, EC2)

AWARDS AND ACHIEVEMENTS

- Letter of Appreciation from Shell Global Mobility Business Lead for valuable contribution in Customer Master Data Project.
- Recognized as “Star Employee of the Month” for 3 consecutive months at Shell.