

# ASHWANTH KUMAR GUNDETI

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## Education

Purdue University | *M.S. in Computer Science*

West Lafayette, IN, USA

*Coursework: Parallel Computing, Prog. Systems, Cryptography*

Jan 2023 - Dec 2024

Indian Institute of Technology Hyderabad | *B.Tech. in Computer Science*

Hyderabad, TG, India

*Coursework: Algorithms, Data Structures, Operating Systems, Database Management*

Aug 2017 - Jun 2021

## Experience

Purdue University

West Lafayette, IN, USA

*Software Developer*

Aug 2023 - Aug 2024

- Led the development of an interactive website for the Purdue School of Languages and Cultures, **improving user engagement by 12%** within four months through intuitive navigation and visuals.
- Optimized frontend performance by refactoring HTML/CSS/JavaScript and applying lazy loading, **minimizing average page load time by 35%** across all user devices.
- Built XML-based data management modules to streamline content updates, **cutting bounce rates by 18%**.

GE Digital

Hyderabad, TG, India

*Software Engineering Specialist*

Jul 2021 - Dec 2022

- Enhanced APM Predix **Analytics framework** by enabling concurrent execution of analytics using **Java Concurrency APIs**, improving real-time analytics **processing time by 55%**.
- Implemented scalable cloud-native analytics modules with **Java**, leveraging **AWS Lambda, S3, and Step Functions** to cut **latency by 42%**.
- Launched **modular microservices** for analytics integration, enhancing platform scalability and revamped CI/CD pipeline with **Docker, Kubernetes, and GitLab CI**.
- Spearheaded the Monoceros Project, implementing a Unit Commitment **Optimization model** utilizing **Gurobi**, lowering **operational costs by 34%**.
- Designed and trained **LSTM models** for energy demand forecasting using **PyTorch**, **achieving 98% accuracy** on test datasets across several fleets.
- Established automated testing pipelines using PyTest and GitHub Actions to validate ML outputs.
- Developed **real-time dashboards** with **Streamlit**, integrating optimization outputs for enhanced decision-making.

*Software Engineer Intern*

May 2020 - Jul 2020

- Pioneered an **encryption tool in Bash**, strengthening Git security with **asymmetric encryption mechanisms**.
- Implemented granular access controls and secure file sync workflows, reducing potential data exposure risks **by 100%**.
- Refined Bash scripts for encryption checks, security policy enforcement, and key rotation, reducing **execution time by 23%** during routine audits.

## Projects

**Realtime Collaboration IDE**

- Developed a real-time code collaboration application with **NextJS**, implementing WebSocket-based communication for synchronized editing, live preview, and version control.
- Stress-tested with **10+ concurrent users**, achieving **<300ms latency** for code sync events and state consistency.

**Voice-ChatGPT**

- Created an interactive voice-driven ChatGPT mobile app leveraging **OpenAI API, Python, and KivyMD**, incorporating Text-to-Speech (TTS) and Speech-to-Text (STT) for fluid communication.
- Deployed on **AWS** with a robust client-server architecture that delivers real-time interactions with **sub-6-second** response times.

**Personal Portfolio**

- Crafted a fast, responsive, and SEO-optimized personal portfolio, showcasing projects, blogs, and resume. Deployed via Vercel with CI/CD for seamless updates and version control through GitHub.

## Technical Skills

**Languages:** Python, C, C++, JavaScript, TypeScript, SQL, C#, Go, Shell Scripting

**Cloud & DevOps:** AWS, GCP, Docker, Kubernetes, CI/CD, GitOps

**Web & API Development:** REST APIs, GraphQL, Java Spring Boot, Flask, FastAPI, React, Node.js

**Machine Learning:** Pytorch, TensorFlow, Transformers, LangChain, Ollama, Unsloth, ONNX, Gurobi

**Big Data & Streaming:** Apache Airflow, Apache Kafka, PySpark, Snowflake, Redshift