Sai Charan Eppa

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EDUCATION

University of Alabama at Birmingham, *Birmingham, Alabama* Dec 2025(Expected)
Master of Science in Computer Science, Gradepoint – 3.5/4.0

Osmania University, *Hyderabad* Aug 2019 – Jul 2023
Bachelor of Engineering in Computer Science and Engineering, Gradepoint – 7.93/10

EXPERIENCE

Cloud MLOps & Data Engineer, *QuantumCore Technologies* May 2025 – Present

- As a Cloud MLOps & Data Engineer Intern at QuantumCore Technologies, I build and deploy machine learning models using Vertex AI, Cloud Run, and Docker for real-time energy optimization and quantum system simulation.
- I manage cloud infrastructure, debug deployment pipelines, and engineer secure data workflows across GCS and BigQuery. This role allows me to contribute directly to scalable AI systems while gaining hands-on experience in cloud-native MLOps & ETL Pipelines.

Embedded Systems Intern, *DRDO* Jun 2023 – Aug 2023

- Engineered missile orientation models utilizing Altair Embed, generating automated code and reducing manual coding time by 30%, while integrating this code into missile control systems using 8086 microprocessors.
- Integrated adaptive noise cancellation techniques into signal processing algorithms, reducing sensor interference by 15 decibels, directly contributed to more reliable target acquisition.

PROJECTS

Energy Analytics Dashboard (GCP + Vertex AI) **Link**

- Architected a cloud-native analytics pipeline on Google Cloud leveraging BigQuery, Cloud Storage, and Vertex AI, ingesting 2M+ energy-consumption records with automated ETL and schema validation.
- Developed and retrained forecasting models using Vertex AI Pipelines, improving short-term demand prediction accuracy by 18% and enabling proactive load-balancing strategies.
- Deployed a scalable Cloud Run backend exposing REST endpoints that served real-time predictions (<200 ms latency) to an interactive dashboard built in Python/Plotly Dash, enhancing decision-making for grid operators.
- Integrated CI/CD with Cloud Build and Artifact Registry, cutting deployment time by 40% and ensuring reproducibility across staging and production environments.

Decentralized E-Voting Portal Using Blockchain **Link**

- Designed a blockchain-based voting system prototype that processed 1,000 simulated votes with zero unauthorized modifications, showcasing the system's resistance to tampering, and achieving a 99.9% data integrity rate.
- Implemented smart contract-based authentication mechanism on Ethereum, reducing unauthorized access attempts by 75% and streamlining voter verification processes by 20%.

SKILLS

- **Programming Languages**: C++, Java, Python, R, HTML, CSS, JavaScript, Solidity.
- **Tools & platforms**: VSCode, MetaMask, Ganache, AWS, Google Cloud, Git, GitHub, CI/CD,
- **Libraries:** Pandas, Scikit-Learn, TensorFlow, NumPy, PyTorch.
- **Databases**: MySQL, PostgreSQL.
- **Other Skills**: Data Structures, Object Oriented Programming, JDBC.

ACHIEVEMENTS & CERTIFICATIONS

- Implemented multiplayer networking module in C using TCP/IP sockets, enabling seamless online gameplay for up to four simultaneous players and enhanced competitive experience.
- Enhanced proficiency in crafting and debugging SQL queries through Hackerrank, identified and corrected three critical data discrepancies, ensuring accurate parameter transmission and improving overall system reliability.
- Designed and delivered a three-day intensive workshop on Artificial Intelligence, covering deep learning, reinforcement learning, and natural language processing, increasing model accuracy by 12%.
- Migrated legacy systems to Google Compute Engine, creating detailed documentation for the team and cutting infrastructure costs by 15% through efficient resource allocation and rightsizing of virtual machines.