Sai Tarrun Pitta

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EDUCATION

California State University, Fullerton | Fullerton,CA **Aug 2024 - May 2026**
Master of Science in Computer Science **GPA:** 3.67/4.00
Coursework: Analysis of Algorithms, Database Management, Software Management, Software Verification, Computer Vision

Gandhi Institute of Technology and Management | Visakhapatnam, IN **July 2019 - Apr 2023**
Bachelors of Technology in Computer Science
Coursework: Data Structures, Front End Engineering, Operating Systems, Object-Oriented Design, Cyber Security

SKILLS

Programming Languages: Python, JavaScript (ES5/ES6), Typescript, SQL, HTML5, CSS, Linux, C++, Bash
Frameworks and Libraries: ReactJS, Node.js, ExpressJS, Spring Boot (MVC), Django, Flask, GraphQL
Software Development:, Functional Programming, System Design, REST API, Agile Methodologies (Scrum/Kanban), Clean Code, Problem Solving, Continuous Improvement.
Cloud & DevOps: AWS (EC2, S3, EKS), Google Cloud GCP (GKE), Docker, Kubernetes, Jenkins, Terraform, Helm, Ansible
Databases: PostgreSQL, MySQL, MongoDB, Firebase, Redis, Snowflake, Cassandra (SQL & NoSQL)
Machine Learning & AI: Supervised & Unsupervised Learning, Deep Learning, Tensorflow, Natural Language Processing, Neural Networks Feature Engineering, scikit-learn
Developer Tools: Version control**,** Git, GitLab, JIRA, Kafka, SonarQube, Prometheus, Postman
CyberSecurity: Network Security and Programming, Security architecture, Vulnerability Assessment, SIEM, Risk Assessment, Cryptography

EXPERIENCE

Research Assistant | California State University, Fullerton | Fullerton,CA **Dec 2024 - Present**

- Implemented Implemented a Trojan detection pipeline using PyTorch and GNNs, achieving over 90% detection accuracy and reducing false positives by 30%, enabling secure waveform analysis for academic cybersecurity research.
- Captured, **triggered**, and analyzed 40K+ power traces using ChipWhisperer and a custom ESP32-based trigger system.
- Developed a multi-model ensemble (AE, LSTM, OC-SVM, XGBoost), improving anomaly triage speed by 40%.
- Automated ETL workflows in Python, reducing preprocessing time by 40%.
- Presented findings at the IEEE HOST Symposium and collaborated with 3 researchers from different departments, fostering cross-disciplinary innovation.

Software Engineer | Accenture | Hyderabad, INDIA **Jan 2022 - Aug 2024**

- Re-architected backend services in Java & Python using **multithreading and microservices**, increasing system throughput by **18%** across 4 high-impact client projects.
- Collaborated with QA/DevOps teams to integrate **unit testing and integration testing** with **JUnit, PyTest, and Selenium** into CI/CD pipelines, cutting regression time by **35%**.
- Designed and deployed a **SOC2-compliant CI/CD pipeline** using AWS S3 and Terraform, reducing manual setup by **75%**.
- Led Kubernetes deployment across AWS EKS and GCP GKE, ensuring **90% uptime** and enforcing change control policies.
- Applied **design patterns** and enforced **coding standards** to ensure scalable, backend services across client-facing application
- Facilitated peer mentoring through weekly **brown-bag sessions** and authored 4+ internal technical documentation and Code Review

PROJECTS

Automatic Number Plate Detection and Recognition System (Group)

- Built a real-time computer vision based ANPR system using **OpenCV, Tesseract OCR, and CNNs**, reducing manual intervention by **70%** and operational costs by **35%**.
- Integrated PostgreSQL with Flask backend and multithreading, achieving **40% improvement** in DB response time under load.

Network Optimization for Leo Satellites (Group)

- Developed a scalable microservices architecture using **Flask, Kubernetes, and Terraform**, ensuring **high availability (99.99% uptime)** and seamless real-time data streaming for satellite communication.
- Built a routing system with **Reinforcement Learning and Predictive Analytics**,reducing latency and cost by 45%, 35%

Food Delivery Cost Comparison Application (Individual)

- Designed a full-stack food delivery price comparison platform using **Django, ReactJS, and PostgreSQL**, integrating APIs from UberEats, DoorDash, and GrubHub, **helping users save 18-25% per order** by identifying the lowest cost options.
- Optimized **API response times by 30%** through caching, database indexing, and efficient data processing, **ensuring 99.9% uptime** with scalable deployment using **Docker, Kubernetes, and AWS.**

AWARDS AND PATENTS - Patent Recognized by UK Government: ***Automatic Car Driving Mechanism using AI*** — officially registered and recognized by the UK Intellectual Property Office.