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PROFESSIONAL SUMMARY

Forward-Deployed Engineering (FDE) Trainee and Full-Stack Machine Learning developer specializing in building enterprise-scale AI platforms, distributed big data pipelines, and multi-agent orchestration systems. Certified Claude Professional Architect (CCAR-P) with proven expertise in developing predictive ML models, RAG-enabled LLM assistants, and responsive full-stack dashboards using modern technologies like PySpark, FastAPI, React, and LangGraph. Demonstrated success in processing high-volume telemetry and automating complex operational workflows through intelligent, guardrailed AI solutions.

TECHNICAL SKILLS

- **Languages:** Python, JavaScript, SQL, C, HTML, CSS
- **AI & LLM Frameworks:** LangGraph, LlamaIndex, CrewAI, Anthropic Claude, HuggingFace, OpenAI, MCP
- **Machine Learning & Data:** PySpark, LightGBM, XGBoost, Scikit-Learn, TensorFlow, Pandas, NumPy
- **Backend & Data Engineering:** FastAPI, Apache Airflow, Flask, MySQL, SQLite, SQLAlchemy
- **Frontend & DevOps:** React 18, Vite, Streamlit, HTML5 Canvas, Docker, Git, GitHub

PROFESSIONAL EXPERIENCE

Prodapt Solutions Pvt Ltd

Chennai, India

FDE Trainee (Forward-Deployed Engineer)

Jul 2026 – Present

- Collaborate directly with enterprise telecommunications clients to architect, deploy, and scale custom AI and Large Language Model (LLM) orchestration solutions.
- Lead the technical integration of the **Prodapt AI Operations Center**, transforming fragmented manual support systems into automated, zero-hallucination agentic workflows.
- Develop and securely expose internal corporate data silos (billing, CRM, network telemetry) to external AI agents using advanced Model Context Protocol (MCP) implementations and A2A microservices.

Vcodez

Remote

Machine Learning Intern

Jun 2025 – Sep 2025

- Designed and optimized end-to-end machine learning pipelines across 10+ datasets.
- Applied and tuned complex regression and classification algorithms to identify predictive trends and improve baseline model accuracy.

Sairam Techno Incubator

Chennai, India

Robotics & Machine Learning Researcher

Feb 2025

- Trained and fine-tuned 3 distinct object detection models to significantly enhance autonomous rover navigation.
- Integrated multi-sensor data streams (ZED camera, Realsense, Pixhawk) to enable synchronized robotic movement and environmental spatial awareness.

SELECTED TECHNICAL PROJECTS

Prodapt AI Operations Center

LangGraph, LlamaIndex, CrewAI, SQLite, Streamlit

A multi-agent orchestration platform automating complex telecommunication NOC operations.

- Engineered an intelligent LangGraph supervisor router to evaluate intent and delegate tasks to specialized framework workers (LlamaIndex RAG, Semantic SQL, and A2A Microservices).
- Implemented LlamaIndex Document RAG and Semantic SQL to synthesize zero-hallucination answers directly from highly technical policy documents and operational databases.
- Utilized a dual-agent CrewAI sequential pipeline to draft, review, and finalize compliance-aligned, empathetic customer communications based on decentralized network telemetry.

Telecom Predictive Intelligence Platform

PySpark, Airflow, LightGBM, FastAPI, React

An end-to-end Big Data platform analyzing 10,000 spatial cells across the Milan metropolitan area.

- Architected a distributed ETL pipeline utilizing PySpark and Apache Airflow to process high-volume telecommunication CDR records and roll them into hourly analytical summaries.
- Deployed a LightGBM gradient-boosted anomaly detection model to forecast network activity surges, alongside an interactive HTML5 Canvas React dashboard rendering all 10,000 cells without browser DOM lag.
- Engineered an autonomous Claude 3.5 NOC Copilot Agent integrated with an MCP (Model Context Protocol) server for live operational tool-calling and dynamic prompt diagnostics.

Enterprise Telecom Churn Analytics System

XGBoost, Python, Multiprocessing, FastAPI

A high-throughput Lakehouse ingestion and probabilistic subscriber risk modeling system.

- Built a distributed data pipeline processing 240,000+ subscriber records, featuring a multi-core relational ingestion engine and constant-time heuristic risk scoring.
- Developed a heterogeneous in-memory ML ensemble (Logistic Regression, Random Forest, XGBoost) that executes sub-second analytical predictions via an OAuth2-secured FastAPI backend.
- Created a React-based interactive operations console featuring real-time cohort tracking and a heavily guardrailed operational AI assistant restricted to deterministic SQL tool retrieval.

EDUCATION

Sri Sairam Engineering College

Bachelor of Computer Science and Engineering

Chennai, India

Expected May 2026

CERTIFICATIONS & ADVANCED TRAINING

- **Claude Certified Architect - Professional (CCAR-P)** (*Anthropic / Credly*): Validated mastery in Multi-Agent Architecture, Model Context Protocol (MCP) server design, context window optimization, and implementing rigorous anti-hallucination output guardrails. (*Aug 2026*)
- **Enterprise LLMOps & Azure Deployment** (*Duke University & Packt*): Dual certifications in operationalizing large language models on Microsoft Azure, covering production CI/CD, vector storage, model evaluation tracking, and automated deployment lifecycles.
- **Advanced Backend Architecture & APIs** (*Coursera*): Earned three focused certifications in modern backend development, mastering FastAPI asynchronous routing, Pydantic validation, OAuth2 JWT auth, RESTful microservices, and dependency injection.
- **NoSQL Database Engineering** (*Coursera*): Advanced and Beginner PyMongo certifications covering complex aggregation pipelines, multi-document ACID transactions, sharding, and index optimization.
- **Frontend Systems & Deployment** (*Coursera*): Dual certifications in React 18 component-driven architecture, state management hooks, static asset bundling, and CI/CD containerized web application.