

# SAI NIKHIL KATARA

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## SUMMARY

**Data Scientist and ML Engineer** proficient in **Python, TensorFlow, and PyTorch** with expertise in statistical analysis, predictive modeling, and **optimization algorithms**. Experienced in developing **causal inference systems**, time-series forecasting, and **fine-tuning large language models** with strong SQL/NoSQL database skills. Adept at **MLOps** practices including CI/CD pipelines, **model monitoring**, drift detection, and deploying scalable ML systems on **AWS/GCP**.

## EDUCATION

**Master of Science in Computer Science Technology** | Santa Clara University, Santa Clara - CA, USA

Jan 2023 - Dec 2024

**Bachelor in Computer Science and Engineering** | Vellore Institute Of Technology, India

Aug 2015 - May 2019

## TECHNICAL SKILLS

**ML/Data Tools:** Jupyter, PyCharm, VS Code, Docker, Weights & Biases, MLflow, DVC, Kubeflow, TensorBoard.

**Data Visualization:** Tableau, Power BI, Matplotlib, Seaborn, Plotly, D3.js

**Programming Languages:** Python, R, SQL, C++, Julia, Scala, Javascript, CUDA.

**ML Frameworks & Libraries:** TensorFlow, PyTorch, Scikit-learn, Keras, Pandas, NumPy, SciPy, Hugging Face, LangChain, XGBoost.

**Databases:** SQLite, PostgreSQL, NoSQL - Firebase, MongoDB, Prisma.

**Certifications:** Postman-Student Badge, **Google - GCP Cloud Digital Leader**, **AWS Machine Learning Specialty**.

## WORK EXPERIENCE

**Software Development Engineer - Cisco Systems, USA**

Jan 2025 - Present

- Configured **SNMP monitoring** for **Cisco Catalyst switches** and developed **Python scripts** to automate alert correlation, reducing **false positives** while maintaining visibility into critical **network events**.
- Assisted in migrating on-premises monitoring to **Cisco ThousandEyes cloud platform**, implementing **Python/REST API integrations** to synchronize network inventory and automate **ServiceNow alert workflows**.
- As part of a stretch assignment, led **root cause analysis (RCA)** of high-priority **severity 1 TAC** cases using **NLP techniques** (TF-IDF, LDA, clustering) to identify over-escalation patterns and improve **severity classification**.

**Software Engineer Intern | BrighTex Bio-Photonics, USA**

June 2024 - Dec 2024

- Pioneered a robust **code infrastructure** in Dart, optimizing **memory management** and reducing image processing time by **20%**.
- Engineered high-performance **native bridge architecture** using Method Channels, implementing advanced **concurrency patterns** that reduced camera processing overhead by **35%**.
- Developed a **microservices-based framework** for EFEM device monitoring, implementing **Redis/Kafka** for real-time data processing and creating a **scalable architecture** that handled 10,000+ daily combined API traffic.
- Streamlined the **production deployment pipeline** as technical lead for the EFEM analytics dashboard, developing **React/D3.js visualizations** that enabled manufacturing teams to identify process bottlenecks.

**Analytics Engineer | KOCH Industries - India**

Jun 2020 - Aug 2020

- Developed **causal inference models** for manufacturing processes, built ML-based **demand forecasting** with **XGBoost**, implemented real-time **anomaly detection** on sensor data, and engineered supply chain **optimization** using **graph neural networks**, resulting in 15% quality improvement, 22% inventory reduction while maintaining 98.5% service levels, 30% decreased downtime.

**Data Analyst - Capillary Technologies**

Jun 2019-Aug 2020

- Optimized **loyalty points module** with **Redis caching**, built **PySpark pipelines** for customer segmentation, and created analytics dashboards with **PowerBI**, improving transaction speed by 15% across **200+ stores** and enhancing business reporting for client teams.

**Data Analyst (Intern) - EXLY - India**

Oct 2018 - Nov 2019

- Optimized **creator analytics** with advanced **SQL queries** and indexing that reduced database load by **40%** and improved dashboard response time by **65%**, enabling efficient tracking of 5,000+ creators and boosting platform retention by **21%**.

## PROJECTS

**Document Analyzer - AI RAG**

- Developed an advanced Retrieval-Augmented Generation (RAG) application integrating Gemma LLM, enabling users to upload PDF files for intelligent analysis and interactive Q&A functionality, enhancing document comprehension and information retrieval..

**SCU Frugal - CurrencyLearners**

- Designed a cross-platform bilingual app using Flutter, achieving a **55% increase in student engagement** for US currency learning; utilized Firebase for real-time data management, **decreasing load times by 20%** and enhancing app responsiveness and scalability.

**Gen AI-Powered ChatApp**

- Engineered a high-performance mobile app employing **Kotlin, Retrofit, and MVVM**, improving **API invocation performance by 25%** and utilized **Gemini Pro LLM and Vision Pro** for advanced AI-driven user interactions and image processing.

## LEADERSHIP AND ACHIEVEMENTS

- Secured **2nd position** in MachineHack PGDM AI/ML Hackathon organized by IMARTICUS in Bangalore, developing an innovative video-bot recommendation system that improved user-content matching by **28%**, competing against 120+ teams from across India and winning a ₹75,000 prize.
- Led organization of Krazybee customer-centric festival at **VIT University**, managing cross-functional team of 15 members, coordinating marketing campaigns, and successfully attracting **500+ registrations**.