

# SAI VENKATA ADITHYA CHALLA

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## EDUCATION

### University of Southern California

Master's, Computer Science (GPA: 3.75/4.0)

Aug 2024 - May 2026

- **Coursework:** Applied NLP, Database Systems, Information Retrieval, Machine Learning for Data Science, Web Technologies, Deep Learning, Analysis of Algorithms, Software Engineering

### GITAM University

Bachelor of Technology, Computer Science (GPA: 9.15/10)

Jun 2019 - Apr 2023

- **Coursework:** Foundations of AI, Data Warehouse & Mining, Object Oriented Programming, Probability and Statistics, Operating Systems, Computer Networks, Agile Software Development

## TECHNICAL SKILLS

- **Languages & Frameworks:** C, Java, Python, R, PySpark, KQL, MySQL, HTML, CSS, JavaScript, Flask, React, Node.js, Express, .NET, Power Pages
- **Data Engineering:** Azure Data Factory, Azure Synapse Analytics, Microsoft Fabric, AWS QuickSight
- **Data Analysis & Visualization:** Numpy, Pandas, Matplotlib, Seaborn, Power BI, Excel, Power Automate, Tableau, D3.js
- **ML/AI Frameworks:** TensorFlow, PyTorch, Keras, Scikit-learn, NLTK, Beautiful Soup, OpenCV, Streamlit, HuggingFace, Agent Development Kit (ADK), FastAPI

## EXPERIENCE

### Tableau | Student Ambassador

Sep 2025 - Present

- Gain hands-on exposure to Tableau Next, agentic analytics, and AI-assisted data storytelling techniques for modern dashboard design
- Design interactive Tableau dashboards on large datasets, applying best-practice visual design and automated insights for actionable reporting

### MAQ Software | Software Engineer 1

Aug 2023 - Jun 2024

- Instrumented front-end telemetry using Azure Application Insights and Power BI to analyze user behavior and performance metrics, supporting component usability analysis and proactive identification of UI reliability issues.
- Built KPI-driven incident analytics dashboards in Power BI by automating data ingestion with Power Automate, structuring 1,000+ support tickets into Identity, Automation, Incident Type, Severity, and User Groups to improve prioritization and reduce investigation latency.
- Designed and monitored operational KPIs (active incidents, FTE ownership, severity distribution, ticket aging) to surface recurring issues and proactively mitigate SLA risks
- Developed reusable React components for a Power BI Embedded application using the Power BI SDK, improving UI consistency, maintainability, and stakeholder engagement across analytics workflows
- Implemented staging table architectures and automated refresh pipelines, integrating incident telemetry from Azure Application Insights to stabilize transformations, improve data reliability, and reduce processing latency by ~10%.

## PROJECTS

### Multi-Agent AI Career Guidance System

- Built a multi-agent AI career guidance system using Google ADK and Gemini LLMs, orchestrating parallel and sequential agents for real-time decision support.
- Developed tool-augmented research agents leveraging Google Search and built-in currency conversion to analyze career trends, salary bands normalized across US–India–Japan, entrance exams, and subject requirements.
- Designed a modular parallel research + aggregation pipeline synthesizing AI, math-intensive, research, and science career paths into a concise, structured executive summary with consistent downstream outputs.

### Knowledge Conflict Resolution System

- Built an interpretable multimodal knowledge conflict resolution system using CLIP, BLIP, and semantic similarity metrics to detect contradictions between text and images.
- Trained a CNN–BiLSTM text backbone on 100K Fakeddit samples, achieving 0.83 accuracy with stable generalization and class-balanced performance.
- Conducted evidence-grounded claim verification on the LIAR benchmark using BERT/RoBERTa cross-encoders, reducing adjacent label confusion and improving calibration 0.18–0.07 to inform multimodal decision logic.

### Code Generation from API Documentation

- Analyzed instruction-to-API code generation on the API Pack dataset, identifying that zero-shot LLMs achieve near-zero exact-match accuracy despite producing syntactically valid code.
- Improved API code generation reliability by fine-tuning StarCoder, Qwen, and GPT-2 using LoRA, achieving 100% syntax correctness and ~19 SacreBLEU, significantly outperforming zero-shot baselines.
- Built an end-to-end NLP pipeline for instruction-to-code generation, including text normalization, supervised fine-tuning, and evaluation with BLEU, ROUGE-L, perplexity, and exact match.
- Diagnosed endpoint-level generation errors, revealing misalignment between linguistic similarity and executable API correctness, motivating retrieval-augmented and execution-aware approaches.

### Waste Classification using Transfer Learning

- Built a 9-class image classification system on 5,000+ images, with EfficientNetB0 achieving 97.6% AUC and 91.3% validation accuracy, outperforming ResNet50, ResNet101, and VGG16.
- Designed a robust training pipeline with augmentation, early stopping, learning rate reduction, and class weighting to address imbalance and improve generalization.

## CERTIFICATIONS

- Microsoft Fabric Analytics Certification

- Microsoft Azure Fundamentals Certification