

SRI UJJWAL REDDY BEEREDDY

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EDUCATION

Arizona State University (4.0 GPA)

Bachelor of Science in Computer Science (Software Engineering), Minor in Entrepreneurship

Tempe, AZ

Aug 2022 – May 2026

EXPERIENCE

Software Engineering Intern (Machine Learning)

Jul 2024 – Present

Geometric Media Lab

Tempe, AZ

- **Developed** a hybrid ML pipeline that combined k-means clustering with a supervised neural network for gunshot detection, improving **accuracy from 20% to 80%** on **10+ hours** of audio data processed via Librosa and iterative model refinement.
- **Optimized** edge deployment by tailoring the pipeline for Raspberry Pi, integrating hardware-specific adjustments and a custom microphone setup to ensure real-time performance in resource-constrained forest environments.
- **Enhanced** model robustness by implementing a dynamic feedback loop to continuously refine predictions and improve noise differentiation, securing scalable analysis under diverse conditions.

Software Engineering Intern (Machine Learning)

Jan 2023 – Dec 2024

ASU Biodesign Institute

Tempe, AZ

- **Engineered** an end-to-end data pipeline to automate DNA-PAINT image analysis by integrating k-means clustering and custom tracking algorithms, reducing **processing time from 4 hours to 10–30 minutes** per image.
- **Improved** research capabilities by delivering granular movement data and actionable metrics, transforming traditional nanotech workflows into ML-driven, high-impact research tools.

Software Engineer

Aug 2024 – Present

Mesa Historical Museum (EPICS)

Tempe, AZ

- **Developed** an interactive website using React and Three.js, resulting in a **20% increase in visitor engagement** and offering an engaging digital tour of museum collections.
- **Directed** a 7-member team to implement scalable content management and ensure sub-second website response times, optimizing the digital visitor experience.

Software Engineer

Jan 2024 – Oct 2024

Software Developers Association (SoDA)

Tempe, AZ

- **Automated** operational workflows, reducing **test case upload time by 98%** using a Selenium-based **scraper for 200+ files**, streamlining annual code challenge processes.
- **Enhanced** membership systems by developing a Flask-Next.js application, boosting **operational efficiency by 50%** and enhancing **engagement for 600+** active members.

LEADERSHIP EXPERIENCE

- **Led** teams to win **4 hackathons** sponsored by *Honeywell*, *DAASH*, and *ASU*, guiding 15+ developers to competition success
- Evolved from Intern to **Technical Director** at *SoDA*, managing 12 engineers to deliver technical workshops for 600+ club members

PROJECTS

Amano – Emotion-Based Song Recommendation System | Flask, Spotify API, OpenAI API, AWS EC2

- **Enhanced** Spotify's song recommendation system by developing a backend using **Flask hosted on AWS EC2** that integrates with the **Spotify API** to provide personalized song suggestions using **Reinforcement Learning**.
- **Improved** user experience with a real-time **ChatGPT LLM chatbot** that analyzes mood and sends data to the reinforcement model for dynamic song recommendations, functioning like a personal DJ.

Mine Alliance – Fullstack Sustainable Mining Website | Next.js, Flask, SQLAlchemy, AWS, OpenAI GPT-4, TailwindCSS

- **Decreased** environmental assessment response times by **40%** by developing a **fullstack platform** that integrated **ChatGPT-4 API** for mining site impact assessments.
- **Improved** stakeholder engagement by utilizing **SQLAlchemy, Flask, AWS EC2**, and **geospatial mapping with Leaflet**.

Market Anomaly Detection (MAD) | Python, Streamlit, Scikit-learn, GEMINI, Jupyter Notebook

- **Built** an anomaly detection system to identify potential financial market crashes, utilizing **Streamlit** for an interactive user interface and **Scikit-learn** for model training and tuning.
- **Improved** user-driven customization and performance with features like **GEMINI-powered chatbot**, automated model tuning, and support for supervised and unsupervised learning pipelines.

TECHNICAL SKILLS

Languages: Python, C/C++, Java, JavaScript, TypeScript, C#, SQL, HTML, CSS, Flutter

Frameworks & Libraries: Flask, Django, React, TensorFlow, PyTorch, scikit-learn, OpenCV, three.js, pandas, numpy, ServiceNow

Tools & Environments: Streamlit, Docker, AWS, Linux, Git, GitHub, Selenium, Google Colab, Jupyter Notebooks

Machine Learning & AI: Neural Networks, GEMINI API, Deep Learning, Reinforcement Learning, Unsupervised Learning