Sri Ujjwal Reddy Beereddy

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Education

Arizona State University (4.0 GPA) Tempe, AZ

Bachelor of Science in Computer Science (Software Engineering), Minor in Entrepreneurship *Aug 2022 – May 2026*

Experience

Software Engineering Intern (Machine Learning) Jul 2024 – Present

Geometric Media Lab *Tempe, AZ*

- **Engineered** a hybrid *ML pipeline* that combines k-means clustering with a supervised neural network for gunshot detection, boosting **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 creating a custom microphone setup for 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*

- **Developed** an end-to-end data pipeline, automating DNA-PAINT image analysis through *k-means clustering* and custom tracking algorithms, slashing **processing time from 4 hours to 10–30 minutes** per image.
- **Advanced** 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*

- **Built** an immersive digital experience with an interactive website using *React* and *Three.js*, **increasing visitor engagement by 20%** and offering an engaging digital tour of museum collections.
- **Led** cross-functional teams of 7 members to implement scalable content management and ensure sub-second website response times, optimizing the digital visitor experience.
- Ensured the **high availability** and **performance** of the website by **automating** deployment and monitoring using *Linux* servers.

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.
- **Optimized** membership systems with a *Flask-Next.js* application that boosted **operational efficiency by 50%** and enhanced **engagement for 600+** active members.

Leadership Experience

Led teams to secure **4 hackathon wins** — including the **Most Innovative Solution Award** at **Devil's Invent** and the **Sustainable AZ Spark Challenge** (sponsored by **Honeywell, DAASH, and ASU**).

Progressed from Intern in Community Engagement to Associate Technical Director at **SoDA**, managing a team for workshop development, internal tool optimization, and outreach initiatives (e.g., hosting hackathons).

Projects

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

- **Spotify API** used to **develop** a backend using *Flask* hosted on *AWS EC2* that integrates with the *Spotify API* to provide personalized song suggestions using *Reinforcement Learning*.
- **OpenAI API** used to **enhance** the user experience with a real-time *ChatGPT LLM chatbot* that analyzes mood and sends data to the reinforcement model for dynamic song recommendations.

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

- **ChatGPT-4 API** used to **reduce** environmental assessment response times by **40%** by leading the development of a *fullstack platform* that integrated *ChatGPT-4 API* for mining site impact assessments.
- Utilized *SQLAlchemy, Flask, AWS EC2*, and geospatial mapping with *Leaflet*, resulting in increased stakeholder engagement.

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

- **Streamlit** used to **develop** 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.
- **Machine Learning** used to **enable** user-driven customization and improved performance with features like *GEMINI-powered chatbot*, automated model tuning, and support for supervised and unsupervised learning pipelines.

Technical Skills

Languages: Python, Java, JavaScript, C/C++, Scala, C#, SQL, HTML, CSS, Flutter
Frameworks & Libraries: Flask, Django, React, TensorFlow, PyTorch, scikit-learn, OpenCV, three.js, pandas, numpy
Tools & Environments: Streamlit, Docker, AWS, Azure, Linux, Git, GitHub, Selenium, Google Colab, Jupyter Notebooks
Machine Learning & AI: Neural Networks, GEMINI API, Deep Learning, Reinforcement Learning, Unsupervised Learning