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, combining 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 by integrating k-means clustering and custom tracking algorithms, slashing **processing time from 4 hours to 10–30 minutes** per image.
- **Advanced** research capabilities, 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 by developing 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, directing 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.
- **Optimized** membership systems by developing a *Flask-Next.js* application that boosted **operational efficiency by 50%** and enhanced 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
- Rose 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*

- **Leveraged Flask** hosted on *AWS EC2* to **improvise Spotify's song recommendation system** by integrating with the **Spotify API** to provide personalized song suggestions using **Reinforcement Learning**.
- **Implemented ChatGPT LLM chatbot** to **enhance user experience** by analyzing mood in real-time and sending 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*

- **Reduced environmental assessment response times by 40%** by **developing a fullstack platform** that integrated **ChatGPT-4 API** for mining site impact assessments using *Next.js* and *Flask*.
- **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*

- **Developed 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.
- **Enabled 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, TypeScript, C#, SQL, HTML, CSS, C/C++, Flutter
Frameworks & Libraries: React, Angular, Ionic, .NET, Node.js, Flask, Django, TensorFlow, PyTorch, scikit-learn, OpenCV, three.js, pandas, numpy
Tools & Environments: Git, GitHub, Docker, AWS, Microsoft Azure, Linux, Streamlit, Selenium, Google Colab, Jupyter Notebooks
Machine Learning & AI: Neural Networks, Deep Learning, Reinforcement Learning, Unsupervised Learning, GEMINI API