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: Combined 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: Tailored the pipeline for *Raspberry Pi* by integrating hardware-specific adjustments and a custom microphone setup, ensuring real-time performance in resource-constrained forest environments.
- **Enhanced** model robustness: Implemented 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: Automated 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: Delivered 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: **Developed** 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: **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: Reduced **test case upload time by 98%** using a *Selenium*-based scraper for **200+ files**, streamlining annual code challenge processes.
- **Optimized** membership systems: **Developed** 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*
- **Implemented personalized song suggestions** by **developing** a backend using *Flask* hosted on *AWS EC2* that integrates with the *Spotify API* using **Reinforcement Learning**.
- **Enhanced user experience** by integrating 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*
- **Reduced environmental assessment response times by 40%** by **developing** 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*
- **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, C/C++, Java, JavaScript, TypeScript, C#, SQL, HTML, CSS
Frameworks & Libraries: Angular, Ionic, .NET, React, Node.js, Flask, Django, TensorFlow, PyTorch, scikit-learn, OpenCV, three.js, pandas, numpy
Tools & Environments: Microsoft Azure, Streamlit, Docker, AWS, Linux, Git, GitHub, Selenium, Google Colab, Jupyter Notebooks
Other: Agile Development, Problem-Solving