Yu Xiu

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TECHNICAL SKILLS

Languages: Python, Java, JavaScript
Frameworks & Libraries: PyTorch, TensorFlow, scikit-learn, Ray (RLlib), Gymnasium, React, Node.js
Web & Cloud: HTML/CSS, AWS, GCP, Docker
Databases: SQL, MySQL, MongoDB
Tools: Git, VS Code, Jupyter, Linux Shell, LaTeX

EDUCATION

Master of Science in Computer Science *San José State University GPA: 3.6 | 2022 - Dec. 2024*

Visiting Grad Student in Computer Science *Stanford University Summer Session | June - Aug. 2024*

Bachelor of Science in Computer Science *San José State University, GPA: 3.7 | Dec. 2020*

EXPERIENCE

System Software Engineering Intern *KBR/NASA Ames, Mountain View, CA Oct. 2023 – Apr. 2024*

- Scaled up the fault management team's EUS Engines and Propulsion Integrated Controller (EPIC) system model
- Implemented and tested EPIC control logic for the Exploration Computer Application Software (ECAS) using MATLAB and Simulink, focusing on execution speed, timing accuracy, and numerical stability
- Visualized experimental results to support data-driven decision-making
- Identified and debugged system implementation issues, enhancing model accuracy and system performance

SELECTED PROJECTS

Emotion Arousal Prediction From Audio Explainable AI *Aug 2025*

- Conducted exploratory data analysis (EDA) on audio-derived features using correlation heatmaps and scatter plots to identify top 10 key features of emotional arousal
- Built and compared four regression models (Linear Regression, Random Forest, XGBoost, MLP); selected MLP as final model based on R^2 score
- Tuned hyperparameters using GridSearchCV; observed limited gains on small dataset, highlighting the importance of model simplicity and data size
- Applied SHAP (SHapley Additive Explanations) to interpret MLP predictions and identify the most influential features affecting arousal scores

Network Routing Feature Importance Interpreter with Deep Reinforcement Learning *Dec 2024*

- Designed and built a simulation of an optical computer network routing system
- Developed a custom Deep Reinforcement Learning (DRL) environment using Gymnasium and RLlib; configured a PPO model to optimize path selection for routing source requests to target destinations
- Applied explainable AI techniques to interpret routing behavior and highly impactful features for reducing routing blocks

Video Chaptering Web App *May 2024*

- Designed and implemented backend endpoints using Python Flask to handle video processing and content analysis
- Leveraged the Microsoft Azure NLP model to convert speech to text and determine content transitions
- Developed the frontend using React, integrated RESTful APIs, and deployed on Vercel for fast performance and accessibility
- Integrated AWS services including DynamoDB (data storage), S3 (media management), and Amplify Auth (user authentication)
- Conducted unit testing and maintained continuous integration using CircleCI, following DevOps principles
- Employed version control using GitHub and collaborated with team members for code management