Andrew Sasamori

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Education

Boston University Boston, MA

Bachelor's of Science in Computer Engineering, Concentration in Machine Learning May 2022 – May 2025

Cloud Computing, Deep Learning, Machine Learning, Operating Systems, Computer Organization, Computer Communication Networks, Software Engineering, Data Structures, Algorithms, Statistics/Data Science

Experience

Software Test Engineering Co-op Sep. 2024 - Present

Draper *Cambridge, MA*

- Running unit tests in Rust to validate the functionality of multi-core FPGAs through Ubuntu terminal services, targeting flaws in power consumption
- Automating FPGA testing processes using Python scripts, streamlining interactions between system components and enhancing testing efficiency
- Validating communication protocols (I2C, SPI, UART) across FPGA combinational logic using GNU Debugger, ensuring accurate data transmission and hardware functionality

Undergraduate Research Assistant Jan. 2024 - Present

Tianyu Wang Research Lab at Boston University *Boston, MA*

- Presenting literature reviews for invention of autonomous Deep-Reinforcement Learning-based Electron Microscope
- Producing photonic neural networks for efficient machine-learning computation by parsing through the diffractio library in Python to allow usage with Tensor objects

Embedded Software Engineering Intern June 2024 - Aug. 2024

alarm.com *Boston, MA*

- Distributed full-stack internal Flask-based website using Redis for monitoring embedded firmware IoT devices
- Deployed Docker images for Windows, macOS, Linux based applications using Raspberry Pi Debian packages
- Maintained structure, optimization, and stable code across Linux CLI compatibility via testing protocols

Software Engineering Intern May 2023 – Aug. 2023

Lockheed Martin *Huntsville, Alabama*

- Constructed vehicular software compatibility used by 1,000 users and displayed diagrams and source code to compare and modify attributes based on required parameters
- Improved data model creation by 75% by parsing component structure into element specific JSON files via creation of REST API and Plugins
- Introduced accessibility for classified, informative files to continuously update and display corresponding diagrams remotely and subconsciously without opening previously necessary applications

Projects

Asynchronous Batch Processing for Cloud-LLMs Sep 2024 - Present

Hugging Face, Docker, Apache Kafka, Google Cloud, Redis, Flask, Open-source

- Developing an automated asynchronous batch processing system using Apache Kafka, Google Cloud, and Redis for efficient LLM request management.
- Implementing Flask as API framework to visualize and expose batch processing endpoints through local hosting
- Integrating local models from Hugging Face and commercial-based APIs to simulate generalist use cases across LLM models

Digital Human: Senior Design Project Sep. 2024 - Present

Docker, Google Cloud, Android Studio, Swift, React

- Collaborating with Yobe Inc to develop a SaaS-based digital assistant framework for voice authentication, denoising, and automatic speech recognition, integrated with commercial API-based LLMs, hosted on Google Cloud for real-time processing
- Generating cross-platform UI-visualiztion, utilizing Android Studio, Swift, and React for improved versatility
- Dockerizing entire system, enabling scalable usage by other third-party services, with Automatic Speech Recognition tracking and encrypted conversation history storage

Deep Reinforcement Learning Poker Bot March 2024 - June 2024

Keras, PyTorch, Stable Baselines, OpenAI Gym

- Refined a Deep Reinforcement Learning based Poker AI to maximize profits in No-Limit Texas-Hold-Em poker
- Applied Stable Baselines, Keras, and PyTorch for neural network approaches against popular DQN procedure
- Tuned hyperparameters using A100 GPUs to allow best configuration for 6-player games

Technical Skills

Languages: Python, C++, Java, JavaScript, TypeScript, Rust, Swift, HTML, MatLab, Arduino, Verilog, SQL
Libraries: PyTorch, Keras, TensorFlow, Numpy, Stable Baselines, Scikit-Learn, Pandas
Frameworks: Flutter, React, Node.js, SwiftUI, Angular, JQuery
Developer Tools: AWS, GCP, Linux/Unix, Raspberry Pi, Git, Docker, Microsoft Office Suite, Hugging Face, Kaggle