ShaoCheng Hsu

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B.S., Computer Science, University of California, Irvine, 2020-2024
GPA: 3.58 *Graduation Date: March 2024*
Awards: *UCI Dean's Honor list, Codazen 2024 Hackathon 2nd placed, Econo Research Award Winner*

Professional Experiences

Full Stack Software Engineer, Rexgear, Irvine, CA — April 2024 - Present

`C++/Python/Linux/SEO/GA4/CSS/Javascript`

- Engineered a multi-device management system using C++, enabling data acquisition from multiple power supply instruments with a sub-3 millisecond transportation time and improving system efficiency.
- Spearheaded the redesign and development of key landing and product pages by utilizing advanced CSS and JavaScript to enhance UI/UX and increasing user engagement by 60% and boost conversion rates and click-through rates.
- Optimized web content using SEO tools like Ahrefs and Google Analytics for doubling organic search traffic and increasing phone inquiry leads by 20%.

Machine Learning Engineer Intern, nSpire AI, San Francisco, CA — January 2024 - April 2024

`Python/LangChain/GPTAPI/Firebase/AWS/Chroma`

- Developed an AI-driven conversational language model using Langchain, generating personalized responses and task management suggestions, which enhanced user productivity.
- Designed a vectorized database, aiming to improve data processing efficiency and supporting real-time analysis for large datasets.
- Built and deployed a self-hosted website that supports hundreds of concurrent visitors, allowing users to manage daily tasks, store information, and interact with AI for personalized assistance.

Machine Learning Research Assistance, University of California, Irvine, CA — June 2023 - August 2023

`Python/Deep Learning/Pytorch/GPU/Unit testing`

- Designed and trained a convolutional neural network for a health device program that analyze patient's activities with structural modifications, achieving an exceptional accuracy rate of 96% in a collaborative research project.
- Developed and fine-tuned a multi-classifier model, overcoming domain shift challenges and improving model robustness.
- Applied advanced data transformation techniques on a dataset of over 10 million entries, refining the data pipeline for both structured and unstructured data.

Professor Amir Rahmani's Data Analyzing Research Intern, Remote — February 2023 – April 2023

`Python, Data Engineering, Machine Learning, Statistical Analysis`

- Supervised under the guidance of Professor Amir Rahmani at UCI's Computer Science Donald Bren School of Information.
- Cleaned and analyzed sleep device data to extract meaningful insights and patterns for health research.
- Generated actionable insights to support ongoing device development and improvements in health monitoring systems.

Community Involvement

Cybersecurity Club, Member, University of California, Irvine, CA — September 2022 – January 2024

- Performed comprehensive system security assessments, identifying and remediating critical vulnerabilities to strengthen network infrastructure security.
- Executed advanced penetration testing and ethical hacking simulations in order to enhance threat detection capabilities and further improve security incident response times.
- Led cross-functional security knowledge-sharing initiatives among cybersecurity professionals, for establishing practices and promoting collaborative defense strategies.

Artificial Intelligence Club, Member, University of California, Irvine, CA — September 2022 – September 2023

- Collaborated on AI projects, applying deep learning and NLP methods to solve complicated problems.
- Attended workshops led by professionals, sharpening skills in AI fields and keeping up-to-date with the latest advancements.
- Built lasting connections with high-achieving peers, engaging in continuous learning and innovation within the community.

Relevant Projects

`Online Fashion Store Recommendation` *`April 2024`*
`Collaborators: 2 UCI students (Coding competition project)`

- Integrated an AI API to recommend outfit colors based on the user's mood, occasion, and scenario.

- Developed a recommendation system for outwear across multi-brand online stores, such as Nordstrom, SSENSE, and Macy's.
- Utilized Javascript, React, HTML, CSS, Python, and MongoDB for backend functionality and web implementation.

AI Assistant *February 2024 – April 2024*
Personal Project
- Created a personalized AI assistant that answers user-specific questions based on documents they upload into the system.
- Implemented user authentication and storage with Firebase, using Chromadb to vectorize stored data for better response generation.
- Utilized Python, AWS, Pytorch, Streamlit, and the ChatGPT API to build the assistant's functionality.

Health Wellness App (CalmFlowBalance) *January 2024 – March 2024*
Class Project
- Designed an app to promote a balanced lifestyle by tracking and recording user habits, offering personalized recommendations.
- Integrated with wearable devices to track activity and provide insights into optimizing sleep, exercise, and meditation routines.
- Built using Swift and Firebase, with features like habit trend visualization and stress relief through music.

Autonomous S&P 500 Trading Bot *September 2023 – December 2023*
Class Project
- Built an autonomous trading model using reinforcement learning, achieving a 15% annual return over five years of S&P 500 data.
- Implemented actor-critic techniques and temporal ensembling to optimize stock predictions.
- Incorporated Python and the Yahoo API for stock data retrieval and analysis.

Health Device Program *June 2023 – August 2023*
Role: Assistant (Research project)
- Optimized and trained Python-based machine learning models to analyze wearable device data, identifying users' current exercise categories.
- Applied Convolutional Neural Network (CNN) to improve data structuring and model accuracy.
- Provided insights to enhance user experience in health tracking.

Interactive Online Learning Platform *September 2022 – December 2022*
Class Project
- Developed an interactive learning platform focusing on geometry, using interactive graphs and functions for effective teaching.
- Offered comprehensive math lessons covering multiple topics, including theorems with detailed explanations.
- Programmed using C++, Javascript, HTML, CSS, and SQL.

SKILLS

- **Programming Languages:** C++, Python, C, SQL, Matlab, JavaScript, Java, HTML, CSS
- **Frameworks & Deployment:** React, Flask, Swift, Docker, Tableau, Git, AWS, Firebase
- **Database:** MySQL, MongoDB