MICHAEL ROSTEN

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CAREER FOCUS: ARTIFICIAL INTELLIGENCE / MACHINE LEARNING ENGINEER

EDUCATION

Bachelor of Science (BS) in Computer Science – University of California, Santa Cruz, CA – 2022
Selected Coursework:

- Artificial Intelligence and Applied Machine Learning
- Computer Networking
- Algorithm Analysis and Data Structures
- Computer Systems Design and Technical Writing

EXPERIENCE

Technical Skills

- C++, Java, Python, Git, HTML, SQL, Bash, C, Scheme, TensorFlow, PyTorch, AWS, Agile
- Database Management, Networking, Social Network Analysis, Data Science
- OpenCV, MongoDB, OpenAI, GPT-3, Large Language Models, Natural Language Processing, Computer Vision, NumPY

Artificial Intelligence / Machine Learning Intern at Piivvot – 2022 - Current

- Took a leadership role in a small team dedicated to the core AI-powered features for social network Piivvot. We used social network analysis and large language models to create a powerful recommendation system for users. Users received personalized and updated recommendations on new users to connect to and events to attend. Utilized GPT-3, OpenAI, Python, and user similarity measurements like Jaccard's Coefficient and Adamic/Adar indices.
- As a result, Piivvot saw a 26% increase in new connections between users and a 17% increase in event attendees. Piivvot also saw overall increased user engagement in the application, users found there was more to interact with and as a result spent longer on the app.

Personal Projects

- Computer Vision Image Classification Model: Created multi-layer neural networks for image analysis in TensorFlow with the ability to sharpen rough lines in images of clothing or identify hand gestures. Both trained on large batches of images at a time with high accuracy (~80%).
- Road Lane Detection AI: Project written in Pytorch using OpenCV and numPY that utilizes computer vision to detect road lanes in a video file. Applies Hough transforms to identify lines. Returns a processed video with the lanes highlighted.
- Pacman AI: Completed the famous Berkeley Pacman AI project with Python - implemented various types of agents and algorithms in order to optimally beat different pacman challenges. Successfully got minmax, expectimax and reflex agents working properly. Used these in conjunction with different pathing algorithms and custom weights.
- Multi-Firewall: Designed and wrote software in C that analyzed and filtered packets between different ports or PCs on a local area network. The firewall can perform blocking based on IP, source port, and other characteristics of the communication like packet size, communication form.
- HTTP Proxy: Fully functional HTTP Server and proxy written in Python that can perform all functions of the HTTP protocol. It can also serve as a link between the web and the source, providing enhanced security through proxying.