Andrew Liu

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PROGRAMMING PROJECTS

Workout Program Tracker   September 2024 – November 2024
www.cuuradesign.com/workouts
- Created a full-stack workout tracking application using Typescript, Next.js, MongoDB, and OAuth for secure user authentication.
- Developed a RESTful API to handle workout CRUD operations (Create, Read, Update, Delete) with real-time data fetching and seamless database interactions.
- Utilized Mongoose to model data and manage relationships between users and their associated workouts.
- Deployed the application using Vercel integrated with Github for continuous deployment, enabling automatic updates and integration with the Next.js framework.

GPT Clone   April 2025 – May 2025
www.cuuradesign.com/gpt
- Fine-tuned a 3B parameter LLaMA-3.2 using QLoRA and PEFT to enhance instruction-following, reasoning, and safety response behaviors
- Preprocessed and integrated datasets (e.g. GSM8K, HotpotQA, TriviaQA, MMLU, ARC, etc...) to build a dataset pipeline
- Achieved a 20% gain in instruction compliance and 30% improvement in reasoning accuracy via staged fine-tuning
- Conducted quantized fine-tuning (4-bit NF4) using gradient checkpointing, chain-of-thought prompting, and bf16 precision for training efficiency on an 80GB A100 GPU
- Please contact me about an app demo. The server is currently turned off to save on GPU costs.

Tommy McCarthy Racing Website   January 2025 – Present
Work in Progress
- Creating a full-stack web application using Typescript, Vite, MongoDB, and Auth0 for user authentication.
- Developing and deploying a cloud-based notification platform hosted on GCP that utilized Cloud Pub/Sub to streamline communication between internal operations and end-users.
- Designing and implementing a comprehensive NoSQL schema using Mongoose for a dynamic full-stack platform, managing client profiles, reservation records, product catalog data, and transaction details.
- Organizing meetings to set goals and manage project progress

WORK EXPERIENCE

Waybright Technology Academy   2019 – 2020
Technology Tutor   Scottsdale, AZ
- Tutored and taught lessons in programming, digital art, and music composition for students in K-12 to either reinforce the students' current school education or for the students to better understand a topic from their personal interests.
- Participated in regular meetings to discuss various individual students' development and plan future content.

Mentsu Design LLC   2019 – Present
Graphic Designer   Tempe, AZ
- Created various graphics including logos, clothing designs, business cards, flyers, and social media designs for racing and investment companies to provide a proper brand representation. Designs were sold to multiple Arizona and California businesses.
- Explored ways to visualize customer ideas and create design variations across different mediums, formats, and sizes based on desired brand aesthetics. Ideas are implemented by combining unique customer brand imagery, knowledge of general design, and knowledge of design trends within the customer business field.
- Utilized Adobe software and tools to illustrate and modify designs.

EDUCATION

Arizona State University   Tempe, AZ
Bachelor of Science in Data Science   May 2025

SKILLS/INTERESTS

Programming Languages: Typescript, Javascript, HTML/CSS, Python, C++, Java, SQL, R
Technologies and Frameworks: React, Next.js, Tailwind CSS, Google Cloud Platform, Github, Vercel
Creative Software: Photoshop, Illustrator
Google/Microsoft Software: Docs/Office, Sheets/Excel, Slides/Powerpoint
Other: Weightlifting, Music composition, Rock Climbing, Kickboxing classes, Cooking recipes from scratch