Alexander Watts

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EDUCATION

University of Michigan **Ann Arbor, MI**

Bachelor of Science in Computer Science *April 2023*

GPA: 3.56 / 4.00

Coursework: Data Structures & Algorithms, Operating Systems, Web Systems, Intr. Computer Security, Foundations of Computer Science Theory, Intr. Artificial Intelligence, Conversational AI, Intr. Computer Organization

SKILLS

Languages: TypeScript, C/C++, Python

Technologies: Next.js, Postgres/Prisma, Docker, FFmpeg, AWS (CDK, Lambda, S3, Cloudfront, RDS, EC2, ECR, ECS, SQS), Auth, Stripe, Microcontrollers, Micropython, RaspberryPi, Tailwind, ReactThreeFiber

WORK

Memory Labs, *Co-Founder* *Full Time: Nov 2024 - Present, Part Time: Nov 2023 - Nov 2024*

- Built & sold B2B SaaS platform that streamlines workflows for home photo and video digitization businesses.
- Automated labor-intensive tasks of scene splitting, tagging date / location metadata, and cropping / rotating / deduplicating photos in a series of Dockerized Lambda functions deployed with CDK, ECR & Github Actions.
- Digitized thousands of photos & videos in B2C operation to fund & inform the development of B2B SaaS product.
- Engineered a responsive cloud based media editor enabling business owners to upload, enhance, & deliver their clients' digitized content using Next.js, Prisma/Postgres, Clerk Auth, S3, & Cloudfront.
- Streamlined the file upload and download experience for business owners and clients by integrating Google Drive, Google Photos, Dropbox, and Apple Photos APIs.

Grab Labs, *SWE* *May 2023 - November 2024*

- Co-developed StableVideo.com, a platform where users generate, share, and rate videos from text and images, driving commercial revenue for StabilityAI. Gained foundational web dev experiences using Next.js, Prisma/Postgres, S3, and CloudFront to help deliver a fast, scalable, and engaging user experience.
- Led research & adoption of ComfyUI & KohyaSS for an enterprise inference & fine-tuning product. Contributed to the containerization and deployment of this product on GPU-accelerated servers.
- Built full-stack internal beta for Chatalyst, a Twitch streamer tool that leverages fine-tuned LLMs to analyze chat interactions and streamer transcriptions, generating content suggestions to boost viewer engagement and subs.
- Developed internal React, Node, GraphQL, and Firebase tool empowering non-technical team members to record Twitch streams, curate training sets, and fine tune LLMs, bolstering company-wide AI proficiency.

PROJECTS

Electric Dev Tools, *Creator* *November 2024 - Present*

- Designed a Zip API that dynamically generates download links for cloud-hosted files, offering users a seamless download experience without the overhead of creating, storing, or managing zip files. Leverages a Google Cloud Run function to sequentially stream and compress predefined files from cloud storage directly to users at runtime.
- Built an API enabling developers to execute FFmpeg commands on S3 objects without infrastructure overhead. Leveraged Next.js, Prisma, Lambda, Docker, Clerk Auth, and Stripe to support async/sync invocations, webhooks, logging, and a status dashboard to monitor processing workflows.

Watts In The Box, *Side Project* *July 2023 - August 2023*

- Inspired by James Turrell's artwork, built an interactive IoT light fixture that dynamically responds to sound, motion, and touch using a microcontroller, light strip, microphone, accelerometer, and motion detector.
- Provided consistent product updates via Instagram and participation in BuildSpace Season 4.

Thread Library + Process Memory Manager, *School Project* *October 2022*

- Implemented C++ thread library and process memory manager, integrating mutex, cv, and threads for synchronized execution. Designed a kernel pager for efficient memory and disk space management.

CPU + Cache Simulator, *School Project* *November 2021*

- Developed a C program for a 32-bit RISC language, incorporating a versatile simulated cache with set, full, or direct-mapping and LRU eviction for efficient CPU, cache and memory data transfer.