







Ethan Chapman

Applied AI & Software Engineer

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I'm an applied AI and software engineer with nearly eight years of experience, specializing in end-to-end optimization. My projects have spanned industries, from Mental Health and Defense to Apparel. I focus on building strong technical foundations, ensuring projects succeed by addressing critical issues first and eliminating structural inefficiencies.

Education

Bachelor of Computer Science [incomplete]*

*University of Utah, Salt
Lake City, Utah, USA*

*I dropped out to pursue
my career full-time with
Oak-Tree Technologies.

Skills

- Strong understanding of Python AI stack: Torch, Hugging Face, BitsAndBytes, Pandas, OpenCV, PIL, Numpy, CuPY, Scikit-Learn
- Strong understanding of Python WSGI & ASGI application development: Django, Flask, Celery, Gunicorn, Uvicorn
- Strong understanding of data orchestration and large scale system operation: Docker, Compose, Kubernetes
- Proficient at Frontend & Full Stack: React, React Native, Javascript
- Low level development methodology: Git, Bash, Vim
- Excellent communication and collaboration skills
- Ability to adapt quickly to new technologies and workflows

Portfolio



Professional Experience

Co-Founder

Opulli, San Diego, California, USA
September 2023 - August 2024

Developed innovative AI diffusion technology for consistent, pattern-accurate rendering of clothing and materials. Built data negotiation and job queuing solutions to enable seamless, real-time communication between worker nodes and the user interface. Created a web and mobile apps for virtual try-on and design tools for apparel, supporting designers in visualizing and creating products. Additionally, developed custom search-by-image and embeddings-based recommendation libraries.

Professional Experience (cont)

Lead Engineer

1x4 Technologies, San Diego, California, USA
August 2021 - Present

Initiated and led multiple projects in diverse domains, including defense, healthcare, and IoT. Developed AI-driven tracking and guidance systems on the NVIDIA Jetson platform for IoT military applications, and managed small-scale manufacturing of mechanical and electrical components. Collaborated with UCSD and UIC to create algorithms for brain-tracking systems in mental health, along with secure, compliant cloud solutions for real-time data monitoring and storage. Designed custom apps and feature complete solutions for startups and small businesses, with a primary focus on solving AI problems.

Founder

Juicebox AI, San Diego, California, USA
December 2022 - September 2023

Developed AI-powered, IoT-based camera solutions for passive data collection, enabling businesses to leverage unstructured video data. Created monitoring systems that process vast video streams, transforming them into actionable data points for real-time insights.

Software Engineer

Oak-Tree Technologies, Salt Lake City, Utah, USA
May 2018 - August 2021

Focused on optimizing data transmission across cloud, on-premises, and IoT interfaces, ensuring Oak-Tree remains a valuable contributor to both proprietary and open-source ecosystems. With many applications lacking AI and Infrastructure-as-Code (IaC) compatibility, I worked to modernize infrastructures and integrate AI into workflows.

Linux Systems & Admin Courseware

Guru Labs, Salt Lake City, Utah, USA
May 2017 - May 2018

Maintained Linux administration courseware and developed VM-based solutions to deliver hands-on learning experiences in a controlled cloud environment.

Summer Intern

Galvanic Games, Seattle, Washington, USA
June 2016 - August 2016

Learned how to develop games by a group of indie developers.

Game Design and Programming

FLIP, Provo, Utah, USA
January 2015 - April 2016

Mobile game built on the Unity platform.

Awards

- Startup Weber: High School Challenge 3rd Place 2016
- IndiePlus Mobile Games Competition Finalist 2016
- High School Spring Showcase 2016
- Verizon App Challenge Finalist 2014
- Verizon App Challenge Finalist 2013
- AMC 8 Math Competition Gold Medal 2012

Languages

- English (Native proficiency)

Selected Works

Much of what I've worked on can't be discussed openly [insert legal jargon here]. However, highlights of projects I can share are outlined below!

Opulli

2023 - 2024

I first began work on Opulli's Tech on a whim in early 2023, fascinated with the emerging diffusion AI models. There had been some work discussing the idea of virtual try-on, and I learned what I could from those and ran with it. The in-house model was fine-tuned on top of Stable Diffusion XL, and used a custom attention mechanism to deliver garment details (and later, face information) directly into the UNet portion of the model.



Juicebox

2022 - 2023

Juicebox was an interesting project to work on; one that really put me out of my comfort zone when it came to blending AI and IoT hardware. Nearly all the AI happened on-device in real-time using under 15 watts of power. I spent far too much time optimizing every model (and yes, it was an ensemble of models working together) to keep the device under that power threshold. Multi-modal LLMs were exploding onto the scene at this time, and I had the privilege to dive head-first into them!



FLIP

2015 - 2016

Cute little mobile game I made during the last years of high school. This was my first real experience designing and developing anything, and I'm grateful for the support I received by my family and school as I pursued this. I found out pretty quickly that game development wasn't for me 😊

