Calvin Pelletier

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Education

M.Eng. in Computer Engineering | University of Illinois at Urbana-Champaign | 2017-2018
B.S. in Computer Engineering | University of Illinois at Urbana-Champaign | 2014-2017

Experience

Machine Learning Engineer | Resemble AI | 2023 - Present
- Developing ML infrastructure for text-to-speech and voice conversion.
- Created a novel technique for designing fictitious voices using conditional normalizing flows.

Machine Learning Consultant | VersaFeed | 2023 - Present
- Advising VersaFeed on how to use AI in their product data pipelines.

Software Engineer L4 | Google | 2021-2022
- Developed the infrastructure for automated testing of ML models for the Cloud TPU team.

Founder & CEO | Ahanu AI | 2020-2021
- Led a four-person team to build an AI photo editing web app. I'm responsible for the ML R&D, infrastructure, and web backend.
- Designed hundreds of conditional image-to-image translation experiments consisting of image generation, classification, segmentation, inpainting, and GAN latent space analysis.
- Productionized a complex system of 11 interconnected ML models.
- Short write-up here: pelletier.ai/fluid-photo

Software Engineer L4 | Facebook | 2018-2020
- Developed the Search Ads infrastructure using C++ and applied ML.
- Built an offline preprocessing system for the most common search queries which resulted in a promotion to L4 during my first semiannual evaluation.

Software Engineer Intern | Facebook | 2017
- Interned on the Real-Time Communication team where I improved the real-time video conferencing engine and built tools to analyze data from Messenger calls.

Production Engineer Intern | Facebook | 2016
- Interned as a hybrid systems/software engineer on the Data Infrastructure Security team.

Projects

Machine Learning Library | 2023 - Present
- Developing an AI library built on PyTorch to make it easier to create ML experiments.
- Implemented AlphaZero, StyleGAN2, and more using the library.
- github.com/calvinpelletier/ai

Codebase Visualization | 2022 - Present
- Developing software for creating a visuospatial representation of a codebase to make it easier for engineers to build and maintain mental models of the code they're working on.

Computer Vision Alarm Clock | 2018
- Built a fully-automated alarm clock with a Raspberry Pi, breadboard, and RF transmitters/receivers. It uses ML to digest a live video feed and controls a speaker and various lights.

Life Organizer | 2017-2018
- Created a web app for to-do lists, habit/time trackers, visualizing life data, and more.

Operating System | 2016
- Created an operating system in C and x86 assembly with 3 other developers. I'm responsible for scheduling, the keyboard, the terminal, the RTC, the PIC, and video memory. I'm co-responsible for system calls, executing user code, the file system, segmentation/paging, and interrupts.

Music Composition using Machine Learning | 2015-2016
- Experimented with a variety of techniques including LSTM neural networks and genetic algorithms to compose polyphonic music.

12-bit Computer | 2010-2011
- Designed, hand-wired, and programmed a 12-bit computer from the logic gate level.