

Dawson Metzger-Fleetwood

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EDUCATION

University of Maryland

B.S., Computer Science with Machine Learning Specialization

B.S., Finance

- Deans List
- Taisto Saloma Scholarship

College Park, MD

December 2022

Cumulative GPA: 3.65

9/10 semesters

Fall 2017-18

SKILLS

Programming: Python, Java, Swift/SwiftUI, Matlab, C/C++, Ruby, Rust, Objective-C, JavaScript, HTML/CSS, SQL, MIPS

Software: UNIX, VSCode, Xcode, Matlab, Eclipse, Atom, Firebase, Git/Github, Docker, Tensorflow/Keras, PyTorch, Pandas, Farama Gymnasium/PettingZoo, Bloomberg Terminal, Microsoft Office, Google Suite

Languages: German (proficient), American Sign Language (proficient), Cued English (fluent)

TECHNICAL EXPERIENCE

University of Maryland

Computer Vision — Matlab

Fall 2021

- Created four computer vision applications from scratch; object recognition and distance estimation software, a panorama stitching app, an Adobe rotobrush clone, and a drone location/flightpath tracker using raw camera data.
- Some of the techniques used included: GMMs, alternate color spaces (e.g. YCbCr), convolution, ANMS, RANSAC for homography estimation, cylindrical projection, bilinear interpolation for image blending, image segmentation using localized classifiers, motion estimation with color and shape models, SfM, SLAM, factor graphs, and GTSAM.

Computer Systems Architecture — C/C++ and Assembly

Fall 2022

- Developed an assembly language and error-checking software using only bit shifting, characters, and arrays in C.
- Implemented Tomasulo's algorithm, four branch predictors (G-share, Two-Level Adaptive, etc.), and three cache coherency protocols (MOESI, etc.) for parallelized processors (from 4 to 16 cores).
- Wrote Python scripts for extensive testing of different architectures/hyper-parameters.

Introduction to AI/Machine Learning — Python

Spring 2022

- Implemented many foundational ML algorithms from the ground up, including neural networks, simulated annealing, PCA, softmax regression, gradient descent, A* search, and decision trees. Heavy use of linear algebra was required.
- Implemented Kalman filters, particle filters, and Bayes nets to teach a car to race around a simulated track.
- Made heavy use of object-oriented design patterns for code organization and GitHub for cross-team collaboration.
- Used ensemble methods and neural networks to predict a chess player's ELO given raw game moves as input.

Personal Projects

Protein Timing App — Swift

Spring 2022

- Developed an app using Swift and SwiftUI to help athletes time protein intake throughout the day.
- "Amino Amigo" is currently available on the iOS App Store, and has been downloaded in 11 countries.
- The app factors in individual metabolic limits and alerts users to when - and how much - protein to have.
- Development included exposure to the full software development life cycle across the full application stack.
- The app followed the MVC model, Apple's interface guidelines, and made use of a wide variety of Swift features and frameworks including animations, advanced gestures, Unit testing, MapKit, CoreLocation, CoreData, and Firebase.

Auto-cuer — Python

Fall 2022

- Created a speech to cued English transliterator using OpenAI's whisper API. Designed to be used in place of captioning for non-literate deaf individuals (e.g. young children).
- Designed to be deployable at scale, with full documentation and a suite of automated testing.

WORK EXPERIENCE

Visual Language Associates, Inc

Silver Spring, MD

Technical Co-Founder

September 2019 - Present

- Co-founder of an agency that provides signed language interpreting and cued language transliteration services, successfully securing contracts with the MD state government, and serving over two dozen clients in the DMV area, with an average contract value of over \$90,000.
- Responsible for coordinating scheduling with school officials and other interpreters and transliterators, as well as preparing and leading language and policy training sessions. Assisted with recruiting, onboarding, and sales.
- Developed methodology to screen employees, clients, and contracts, as well as match clients with service providers.
- The Auto-cuer was developed for Visual Language Associates.

Chipotle

Bethesda, MD

Crew and Lead Griller

June 2018 — September 2019

- Served in all crew positions; food prep, dishwasher, customer service line, but mainly grill.
- Responsible for training new grillers and preparing/coordinating all catering operations (sometimes for 100+ people).
- As lead griller, lead the grill staff to score a perfect health/sanitation rating from the MD Office of Food Protection.

Washington Waldorf School

Bethesda, MD

IT and Maintenance Support

May 2015 — June 2018

- Conducted maintenance work throughout the school, including installing infrastructure wiring, maintaining and updating IT systems, and debugging network issues.

Open to relocation: Available to relocate for the right opportunity. Willing and able to obtain security clearance.