

# Amaad Martin

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## EDUCATION

### Carnegie Mellon University

08/2021 – December 2024 (Expected)  
Pittsburgh, Pennsylvania, United States

Bachelor of Science in **Computer Science**  
Concentration in **Machine Learning**  
GPA: 3.4

## EXPERIENCE

### Software Development Engineer

Amazon

05/2023 – 08/2023  
Seattle, Washington, United States

- Created an **ECS Fargate service** using **AWS** to help internal customers
- **Automated internal process** for other SDE employees
- Cut down process time from **2 weeks** to **2 minutes**
- Integrated existing CLI commands into **easy-to-use UI** using **Ruby and Javascript**
- Implemented new **API**

## UNIVERSITY RESEARCH

### ReVL

02/2024 – present

- Research under Prof. Matt Gormley of the Machine Learning Department
- Adding **Recursive Inductive Bias** to Large Visual Language Model to improve desktop control task
- Fine-tuning the QwenVL **Open Source Large Visual Language Model**
- Attempting to achieve **State of the Art** performance on **desktop control** benchmarks

### Reinforcement Learning Car

09/2023 – present

- Research under Prof. Matt Gormley of the Machine Learning Department
- Integrating **DayDreamer** algorithm into remote controlled **Raspberry Pi car**
- Architecting **demonstration** of Reinforcement Learning for students of 10-301/601 (Intro to ML)
- Attempting to train optimal agent in under **6 hours**

## PROJECTS

### GenStudio: Copilot for Mixing and Mastering (Plugin)

12/2023 – 01/2024

- Pivoted from Generative Sample Library to plugin for producers
- Implemented Digital Audio Workstation **plugin** using the **JUCE** Framework
- Utilized **OpenAI Assistants API** to control audio effects
- Iterated based on feedback from **3 users** to create a product they loved

### GenStudio: Generative Sample Library (Website)

11/2023 – 12/2023

- Developed **react** website for **generating stems** for a sample given a text input
- Connected **Meta's MusicGen API** using **Replicate**
- Employed **Demucs** Library for stem separation
- Accepted for **YCombinator** Interview

### doidVerse: Real-Time Evolution Simulator

05/2022 – 08/2022

- Created a real-time **Evolution Simulator** in **C#** with **Unity3D**
- Implemented **NEAT (NeuroEvolution of Augmenting Topologies)** algorithm to find optimal neural network configuration
- Leveraged **graph neural networks**, with **adjacency list** representations, allowing for mutable neural networks
- Designed **procedurally generated maps** utilizing **cellular automata**
- Optimized search space so optimal configurations are found in **less than 5 minutes**
- Combined **200+** hours of work, **2000+** lines of code

## COURSES

10-707 (Advanced Deep Learning)

10-703 (Deep Reinforcement Learning)

10-623 (Generative AI)

10-315 (Intro to Machine Learning)

15-281 (Artificial Intelligence: Representation and Problem Solving)

15-451 (Algorithm Design and Analysis)

15-210 (Parallel and Sequential Data Structures and Algorithms)

15-418 (Parallel Computer Architecture and Programming)

15-213 (Intro to Computer Systems)

## ORGANIZATIONS

### ColorStack

Operations Chair (E-Board)

### Carnegie Mellon Black Male Collective

Organization Collaboration & Small Events Chair (E-Board)

### National Society of Black Engineers

### SPIRIT Black Student Organization

## LANGUAGES / FRAMEWORKS

- |          |           |              |           |
|----------|-----------|--------------|-----------|
| • C      | • C#      | • C++        | • Python  |
| • Java   | • LaTeX   | • Git        | • Mockito |
| • JUnit  | • Pytorch | • Spring     | • Guice   |
| • Dagger | • AWS     | • OpenAI API | • React   |