

**OBJECTIVE:** Summer 2023 SWE Internship or ML Research

## EDUCATION

### Carnegie Mellon University

AUGUST 2021 - CURRENT

- BS **Computer Science** 2025
- Concentration in **Machine Learning**

### Fair Lawn High School

GPA: 4.4

SEPTEMBER 2017 - JUNE 2021

- **Ten AP** classes taken in total
- All Honors besides AP classes
- **Head of Drumline** in Marching Band

## PROJECTS

### doidVerse: Real-Time Evolution Simulator

MAY 2022 - AUGUST 2022 (**Lead Software Engineer**)

- Created a real-time **Evolution Simulator** in **C#** using **Unity3D**
- Implemented **NEAT (NeuroEvolution of Augmenting Topologies) algorithm** to find optimal neural network configuration. Agents are born with randomized **graph neural networks**, using an **adjacency list** implementation, that converge to the optimal configuration due to **natural selection**
- Made **procedurally generated** maps with **cellular automata**
- Optimized the search space so optimal configurations are found in **less than 5 minutes**
- **200+** hours of work, **2000+** lines of code

### GameOfEvo: Automata Inspired Evolution Simulator

APRIL 2022 - MAY 2022 (**Lead Software Engineer**)

- Created an Automata Inspired **Evolution Simulator** in **Python** using **networkx**, **matplotlib**, **cv2**, and **numpy**
- Implemented agents with **graph neural networks** that only reproduce the next generation if they meet some arbitrary criteria. Natural selection picks the optimal configurations to reproduce
- **80+** hours of work, **1000+** lines of code

### hthsHacks: AniLarm Rodent Detector

MAY 2020 (**Software Engineer**)

- Developed **Python** program using **harrcascades**, **OpenCV**, and **arduino** to notify farmers of rodents eating crops
- Made with group of 4 for the **hthsHacks** Hackathon which took place on May 16, 2020
- Created to solve the problem of food shortages due to **COVID-19**

## Amaad Martin

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<https://github.com/AmaadMartin>

<https://amaadmartin.github.io/portfolio>



## SKILLS

### PROGRAMMING LANGUAGES

C

C#

Python

Java

SML

LaTeX

### TOOLS/Frameworks

Unix Command Line

Git

Unity3D

## COURSEWORK

21-259 Calculus in 3-D

07-180 Concepts in AI

21-128 Math Concepts & Proofs

15-122 Principles of Imperative Computation

21-241 Matrices & Linear Transformations

15-150 Principles of Functional Programming

## HOBBIES/CLUBS

ColorStack - Operations Chair

CMBMC - Org Collab & Small Events Chair

NSBE (National Society of Black Engineers)

SPIRIT Black Student Organization