

## Nathaniel Marquez

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### EDUCATION

#### Carnegie Mellon University, School of Computer Science

B.S. Artificial Intelligence, Concentration in Human-Computer Interaction

Dean's List with High Honors

Pittsburgh, PA

May 2024

**Current Coursework:** Search Engines • Advanced Natural Language Processing • Modern Regression • Human-AI Interaction

**Previous Coursework:** Deep Reinforcement Learning • Designing AI Products • Systems (C) • ML • Functional Programming

Parallel & Sequential Data Structures/Algorithms • Human-Robot Interaction • Theoretical CS

### EXPERIENCE

#### Netflix

Los Gatos, CA

Software Engineer Intern, Search and Recommendation - Innovation Team

Summer 2023

- Designed and successfully proposed **two new features** to be integrated into the recommendation system ecosystem
- Increased speed of integration for new products/features by **200%** through working on a service to mock recommendations
- Worked across **6 Java Spring Boot services** and coordinated across **3 teams**
- Impacted over **500,000 automation tests** to cross-functionally serve UI partners

#### Meta

Menlo Park, CA

Software Engineer Intern, In-Stream Ads Team

Summer 2022

- Led the effort to create a new ad format for Facebook Reels using PHP/C++/React, expected to generate **\$4M** by the EOY
- Project was deemed a "high-impact, top company priority", expected to **increase team revenue by 2%**
- Coordinated with **4 different teams** across **3 codebases** to enable backend ad creation and frontend client/advertiser UI
- Organized an intern project showcase for **5 interns** across **2 teams**, presented our projects to **1000+ employees** via livestream

#### Fanhouse

Remote

Software Engineer Intern

Summer 2021

- Developed full-stack web features with React/Node.js for the social media platform which processed **\$2M** during my tenure
- Implemented a weighted social graph experienced by over **65,000 users** for content recommendation
- Single-handedly trained the neural network with TensorFlow for content moderation of over **30,000 monthly photo uploads**

#### Carnegie Mellon University, School of Computer Science

Pittsburgh, PA

Teacher's Assistant for 07-180: Concepts in Artificial Intelligence

Spring 2022, Spring 2023

- Worked with 10 TAs to run a relatively new course of 75 students, covering topics such as Search, MDPs, RL, DTs, and NNs
- Designed and taught 2 new recitations, held weekly office hours, and proctored group discussions during lectures

Teacher's Assistant for 15-112: Fundamentals of CS

Spring 2021

- Worked on a team of 50 TAs to run a class of 300 students, made up of both undergraduate and graduate students
- Led recitation of 25 students 3 times a week, graded quizzes/tests, held office hours and tutored individual students

### PROJECTS

#### Chess Moves For Itself: Autonomous Chess Board

CMU Build18 Hackathon • Spring 2023

- Developed the Main Controller FSM on a Raspberry Pi and utilized Google Voice API to incorporate voice controls

#### TerraBot

15-482: Autonomous Agents • Fall 2022

- Programmed an autonomous greenhouse using ROS (rospy), FSMs, sklearn, and OpenCV to grow lettuce and radishes

#### PogPong: 3D Ping Pong Game ([Devpost](#))

15-112: Intro to CS Term Project • December 2020

- Developed a basic 3D graphics engine in Python, and leveraged OpenCV to implement motion tracking camera controls

### ACTIVITIES

#### Carnegie Mellon Filipino Student Association, President

August 2020 - Present

- Manages club finances; Promotes the Filipino Community through cultural events, guest lectures, and celebrations

#### Youtube Channel ([See Here](#))

June 2020 - Present

- Documents my experiences at Carnegie Mellon and gives college application advice
- Edits, shoots, writes, and produces each video, with a total viewership of **100,000+ views**

### SKILLS

**Proficient Languages:** Java • Python • C • JavaScript/TypeScript • SML (Functional) • HTML/CSS

**Familiar Languages:** C++ • MATLAB • PHP

**Other Development Skills:** Git • Wireframing • MVC/OOP • React • PyTorch • sklearn • Django • Node.js