

## Nathaniel Marquez

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### EDUCATION

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

B.S. Artificial Intelligence • *Dean's List with High Honors*

Pittsburgh, PA

August 2020 - December 2023

**Coursework:** Advanced Natural Language Processing • Deep Reinforcement Learning • Human-AI Interaction • Search Engines  
Autonomous Agents • Designing AI Products • Human-Robot Interaction • Systems (C) • ML • Theoretical CS  
Modern Regression • Functional Programming • Parallel & Sequential Data Structures/Algorithms • Python

### EXPERIENCE

#### Netflix

Los Gatos, CA

*Software Engineer, Search and Discovery Innovation*

July 2024 - Present

- Collaborate with ML, Frontend, and Platform teams to build distributed systems and services for discovery experiences
- Developing inter-title transitions for Live NFL Games, mitigating thundering herd for **tens of millions** of concurrent users
- Own observability efforts across multiple discovery surfaces for Netflix Live Titles to ensure discovery health
- Led the development for Live Title recommendation fallbacks -- the contingency plan if traditional recommendations fail

*Software Engineer Intern, Search and Recommendation - Innovation Team*

Summer 2023

- Increased speed of integration for new products/features by **200%** through working on a service to mock recommendations
- 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, projected to generate **\$4M** by the EOY
- Project was deemed a “high-impact, top company priority”, projected to **increase team revenue by 2%**
- Coordinated with 4 different teams across 3 codebases to enable backend ad creation and frontend client/advertiser UI

#### Fanhouse

Remote

*Software/Machine Learning Engineer Intern*

Summer 2021

- Developed full-stack web features with React/Node.js for the social media platform which processed **\$2M** during my tenure
- Designed and implemented a recommendation system experienced by over **65,000 users** via a weighted social graph
- Single-handedly trained several machine learning models for content moderation of over **30,000 monthly photo uploads**

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

Pittsburgh, PA

*Teaching 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

*Teaching 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

#### Soupy ([soupy.app](https://soupy.app))

Fall 2025

- A novel AI interface that feels like an interactive video essay. Generate instantaneous 3D animations and narrations.

#### WriteAway ([writeaway.fun](https://writeaway.fun))

Bolt.new World's Largest Hackathon • Summer 2025

- AI Native Document Editor and Agent. One of 14 out of 128,000 participants chosen to present my project via live stream.

#### HellaFast.dev ([hellafast.dev](https://hellafast.dev))

Spring 2025

- Full-stack app framework where users configure auth, database schemas, storage and APIs in seconds via natural language.

#### Ploopy ([ploopy.framer.ai](https://ploopy.framer.ai))

Buildspace Hackathon • Winter 2024

- A cute and adorable therapy companion built in a React Native mobile app. Leverages RAG and LLMs for daily inspiration.

#### Acadia AI, Co-Founder ([acadia-ai.com](https://acadia-ai.com))

January - April 2024

- Solving data-interpretability for LLMs via embedding based methods. Received acqui-hire offer from a Series A company.

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

CMU Build18 Hackathon • Spring 2023

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

### SKILLS

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

**Frameworks/Tools:** Git • MVC/OOP • React • PyTorch • Next.js • Django • Node.js • Spring Boot • AWS • MCP