

AMAZON ROBOTICS • PATH PLANNING TEAM • WESTBOROUGH, MA

Software Development Engineer

SEPTEMBER 2019–APRIL 2022

- Developed unstructured path planning API for autonomous warehouse vehicles ([demo](#))
- Implemented real-time event stream processor for vehicle allocation
- Developed optimizations across tier-1 data pipeline to improve scaling of accessor API by 1500%
- Designed internal alarming library used across adjacent teams
- Simplified management of throttling system and collaborated on clear self-service workflow for clients
- Presented technical design decisions
- Undertook occasional UI design work
- Mentored intern project and positively influenced programming methodology of colleagues

MATHWORKS • DATA TOOLS & GRAPHICS TEAMS • NATICK, MA

Software Engineering Intern

SUMMERS 2016–2018

- Developed full-stack feature for MATLAB Online's Import Tool
- Implemented several heavy UI elements for MATLAB's Property Inspector, including colormap ([detail](#))
- Created graphics performance reporting app for progress tracking

UNIVERSITY OF MASSACHUSETTS, AMHERST • AMHERST, MA4.0 \ **3.91**

Bachelor of Science in Computer Science

SEPTEMBER 2015–MAY 2019

- 589 Machine Learning 514 Data Science 583 Game Programming 383 Artificial Intelligence
- 403 Robotics 326 Web Programming 611 Advanced Algorithms MATH MVCalc LinAlg DiffEq

UNIVERSITY OF AUCKLAND • AUCKLAND, NEW ZEALAND8.0 \ **8.25**

Semester Abroad

SPRING 2018

- 373 Computer Graphics 351 Database Systems 345 Human-Computer Interaction

OTHER PROJECTS & ROLES

MERN-based Web Applications

2021–2023

- ([wordbase.app](#)) remake of discontinued multiplayer word game
- ([wordle.freshman.dev](#)) leaderboard for programmatic Wordle solvers
- ([dinder.social](#)) match users based on what they'd like to make for dinner
- ([pico.freshman.dev](#)) resources for getting started with the Raspberry Pi Pico
- ([follow-sync.freshman.dev](#)) sync follows between Twitter and Mastodon
- ([basin.fish](#)) fishbowl, a party game

Hierarchical Control System for Simulated Pong-Playing Robot

2019

- Composed behavior from low-level PD controllers to integrated gameplay for course competition

3D Game Development in Unity

2019

- Designed physics-based couch game with Nintendo Joy-Cons for player input ([link](#))

Hackathon Competition

2018

- Won 'Most Innovative' for idea with random group while studying at University of Auckland

Team Lead, Competitive Programming Interest Group

2017

- Achieved 7th place in the ICPC 2017 Northeast North America Regional Contest ([scoreboard](#))
- Qualified at BOSPPE Preliminary as first-time ICPC competitor ([scoreboard](#))

Secretary, Association for Computing Machinery (ACM) Student Chapter

2017

PROGRAMMING LANGUAGES, FRAMEWORKS, TECHNOLOGIES & METHODOLOGIES

- Java, JavaScript/TypeScript, Python, C/C++, C#, Kotlin, Ruby, MATLAB, HTML/CSS, SQL
- MERN stack (MongoDB, ExpressJS, ReactJS, NodeJS), Django, Dojo Toolkit
- AWS, Chromium DevTools, Git, Unix shell, REST APIs, Service-Oriented Architecture, Agile

CYRUS W FRESHMAN • BOSTON, MA • [CYRUS@\(FRESHMAN.DEV\)](mailto:CYRUS@(FRESHMAN.DEV))