

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
Optimized tier-1 data pipeline service ecosystem to improve scaling of accessor API by 1500%
Designed internal alarming library used across adjacent teams
Simplified management of throttling system and collaborated on 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](#)) make new recipes with random people on the internet
([pico.cafe](#)) 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 similar to charades

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

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 FRESHMAN • BOSTON, MA • CYRUS@FRESHMAN.DEV