

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
 Created graphics performance reporting app to enable 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

Independent Study on MERN Stack

2019

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 ([link](#))

Team Lead, Competitive Programming Interest Group

2017

Achieved 6th place in the ICPC 2017 Northeast North America Regional Contest ([scoreboard](#))

Qualified with 7th place at BOSPRE Preliminary as first-time 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, SQLw
 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))