

# JOSH MOAVENZADEH

## EXPERIENCE

### Facebook, Summer 2018

#### Software Engineering Intern

##### Goodwill Infra – Personalized Video Team

- Developed improvements for a distributed job scheduler
- Built an automated load test framework
- Redesigned and incorporated an alarm remediation system
- Created a UI for managing internal tool configs

### IHMC Robotics, Summer 2017

#### Software Engineering Intern

##### Simultaneous motion planning for robotic arms

- Created a bidirectional RRT algorithm for trajectory generation
- Integrated 3D collision detection and obstacle avoidance
- Improved upon path smoothing and optimization techniques
- Began developing a real-time continuous planner

##### Multi-robot box pushing with mobile robots

- Built a controller API for autonomous mobile robot navigation
- Implemented a geometric path-forming algorithm

### Carnegie Mellon SCS, Jan 2017 - Current

#### Teaching Assistant

##### 15-351 Algorithms and Advanced Data Structures, Fall 2018

- Course covering the design and analysis of algorithms including divide-and-conquer, dynamic programming, network flow, linear and integer programming, and large-scale heuristic search

##### 15-213 Introduction to Computer Systems, Spring 2018

- Intermediate course covering machine-level code, memory organization and management, networking protocols, and concurrent computation

##### 15-112 Fundamentals of Computer Science, Fall 2017, Spring 2017

- Introductory course covering recursion, object-oriented programming, and efficiency analysis

## EDUCATION

### Carnegie Mellon University, Aug 2016 - May 2020

#### Bachelor of Science (B.S.)

- Major: Statistics and Machine Learning
- Minor: Computer Science
- QPA: 3.7 / 4.0
- Dean's List: Spring 2018, Fall 2017, Fall 2016
- Coursework:
  - 11-785 Introduction to Deep Learning
  - 10-605 Machine Learning with Large Datasets
  - 10-601 Introduction to Machine Learning (Master's)
  - 36-402 Advanced Methods for Data Analysis
- Organizations:
  - Data Science Club: Vice President of Events, Webmaster

## CONTACT

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## SKILLS

Python

C

Java

R

PHP/Hack

HTML/CSS

## PROJECTS

### AR Climbing

- Interactive head-to-head game projected on rock climbing walls using Microsoft Kinect
- Finalist from 400+ submissions
- Received Judge's Choice Award from APT
- Featured on FloClimbing

### CtrlCore

- Smart home hub with interactive projection display using Leap Motion
- TartanHacks finalist
- Received Rockwell Automation's Impact Award