



Ajay Pai

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 ajaypai.cloud

Education

University of Washington, Seattle, WA

(Expected) Graduation Date: June 2022

B.S. in Computer Science

Skills

Programming Languages: Java, C#, JavaScript, HTML/CSS, Bash, C++, Python, Ruby

Frameworks & Tools: Git, Unity, Linux, Apache, Android, React, NodeJS, Fusion360, Agile, JIRA

Experience

Software Engineer Intern | Autodesk

2018 – 2019 | 2020 – 2021

- Working on Synthesis, an Autodesk Technology for open-source 3D virtual robotics simulation
- Converted Fusion360 CAD models into dynamic physical bodies for collision detection and control of vehicles
- Developed a C# API for 3rd party developers to create custom functionality in the simulation environment
- Used Unity for front-end and Virtual Reality (VR) development to improve user experience
- Created a cross-platform C# library to interact with the system's default file browser
- Built a custom Mac OSX installer to package and set up the simulation environment
- Participated in Agile Development Methodology using JIRA

President & Vice President | FIRST Robotics Team 2976

2015 - 2019

- Coordinated and directed a team of 60 members
- Responsible for mechanical design, manufacturing, electronics and debugging/reviewing code
- 2018 Houston World Champions

Teacher | Robot-U Academy

2017 – 2019

- Taught students (K-6) basic engineering and robotics such as torque and center of gravity

Projects

Personal Website | ajaypai.cloud

2020

- Hosted personal website using Apache and HTML/CSS on Oracle Cloud Infrastructure (OCI)

Ecosystem Simulation | JavaScript

2020

- Uses a genetic algorithm to simulate natural selection between multiple species
- Uses a Quadtree for collision/range detection to decrease O complexity from n^2 to $n\log(n)$

Predator-Prey Simulation | JavaScript

2020

- A cellular automaton that models population fluctuations in a predator-prey relationship

Blackjack Assistant | Android Java Application

2019

- Uses OpenCV and pattern recognition to identify cards in real-time and make calculated decisions

Maze Visualization | Java

2017

- Uses recursive backtracking to procedurally generate solvable mazes of any size

Google AIY Project | Python

2017

- Worked with the Google AIY team to create a voice activated chess engine.

Achievements

- FIRST Robotics Competition (FRC) Houston World Division Finalists
- FIRST Robotics Competition (FRC) Houston World Champions

2019

2018