ARNAV THAREJA

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EDUCATION

University of Washington | *Seattle, WA* — Expected Graduation: June 2024
Bachelor of Science, Computer Science

Cumulative GPA: 4.0
Coursework: Computer Programming I and II, Foundations of Computing I (Discrete Math), The Hardware/Software Interface, System and Software Tools, Matrix Algebra with Applications
Planned Coursework: Foundations of Computing II (Probability and Statistics), Data Structures and Parallelism, Intro to Differential Equations
Activities: Husky Robotics, Algorithmic Trading Club, UW Association for Computing Machinery (UW ACM), Cube Club

Hazen Senior High School | *Renton, WA* — August 2016 – June 2020

4.0 GPA, National Merit Finalist, National AP Scholar, Eagle Scout

EXPERIENCE

Husky Robotics — October 2020 – Present
Software Engineer, Autonomous Navigation Subteam — *Seattle, WA*

- Created robot pathfinding and autonomous navigation algorithms for a prototype Mars rover using C++
- Integrated ROS2 (Robot Operating System) into codebase using nodes and topics for navigation plan visualization
- Defined and implemented a navigation algorithm to locate targets based on approximate GPS coordinates
- Defined patterns for driving between two posts given GPS coordinates of the center
- Leveraged Docker for CI (continuous integration)

Mathnasium — May 2019 – June 2020
Instructor — *Renton, WA*

- Taught students grades K-12 topics in math up to calculus and helped develop an intuitive understanding of math concepts
- Contributed to smooth operation of the center and interacted with parents and prospective customers

Hazen Robotics FIRST Tech Challenge Team 8693: The Scarabs — September 2016 – June 2020
Project Manager — *Renton, WA*

- Led and mentored a team of over 20 members to successful completion of a competition robot and accompanying software
- Implemented a TensorFlow-based object detection model in Java to be integrated with robot navigation algorithms
- Planned and led public events to introduce elementary and middle schoolers in Renton to STEM
- Increased team efficiency and optimized the development process

PROJECTS

Angles | *DubHacks 2020 – Newsprint Track Finalist (Top 3 out of 70+ Projects)* — *github.com/abhaybd/angles*

- Developed a Chrome Extension that suggests news articles of opposite bias when a news website is visited
- Used Google Cloud NLP to extract relevant keywords from news articles to use in our opposite bias algorithm
- Selected as a finalist in the Newsprint track and recognized as one of the top 3 projects out of over 70 projects

Chess | *Personal Project* — *github.com/arnavthareja/chess*

- Built a chess game in Java that can be played in the terminal
- Implemented a minimax algorithm with alpha-beta pruning for automated gameplay with informed move selection
- Used a heuristic-based iterative deepening depth first search algorithm and memoization to improve runtime

Yearbook 2020 | *Personal Project* — *yearbook-hhs.web.app*

- Designed and developed a web application for students and graduates to sign yearbooks virtually during COVID-19
- Utilized JavaScript, HTML, CSS, and Google Firebase for user authentication, cloud storage, and NoSQL database

Popular Music Analysis | *Personal Project* — *github.com/arnavthareja/music-analysis*

- Analyzed features in popular music using Python and searched for patterns
- Used the Spotify API to get data about popular music and features from Spotify

SKILLS

Languages	Java, Python, C, C++, JavaScript, HTML, CSS
Tools	ROS (Robot Operating System), Docker, GDB (GNU Debugger), Git, GitHub, LaTeX
Other Skills	Communication, Leadership, Project Management