Karanveer Singh

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SUMMARY OF QUALIFICATIONS

- Motivated student passionate about robotics, autonomous systems, and software development.
- Programming: Proficient in Java OOP, Python (NumPy, Pandas, Matplotlib, Scikit Learn, Pygame), C language, Android programming, and Linux Systems. Beginner knowledge of SQL, x86 assembly, HTML, CSS, and JavaScript.
- Proven experience in coding languages, dynamic problem solving, logical thinking, and error analysis.
- Strong engineering background with demonstrated experience in SolidWorks, Autodesk, Balsamiq, and Fritzing.
- Effective teamwork & project management as demonstrated through coursework & extracurriculars.
- Languages: English (Professional), Hindi (Proficient), French (Intermediate), and Punjabi (Beginner).

EDUCATION

University of Washington, *Seattle, WA* *Expected June 2023*
Bachelor of Science, Electrical and Computer Engineering, GPA: 3.74 (Dean's List)

International School, *Bellevue, WA* *September 2015 – June 2019*
High School Diploma
4.0 Unweighted GPA, National AP Scholar, National Honor Society, National Science Honor Society, National Math Honor Society, National Technical Honor Society, FRC Robotics Varsity Letter Recipient, MUN Debate Varsity Letter Recipient

RELEVANT EXPERIENCE

Arm Subsystem Engineer, Husky Robotics Team, University of Washington, *Seattle, WA* *October 2019 – Present*
- Participating in the annual Mars Rover challenge. Redesigned various hand mechanisms as well as implemented laser mounts to aid with computer vision. Helped design and integrate many other components for the 6-axis arm.
- Learned how to work on large scale interdisciplinary projects with multiple sub teams efficiently and coherently.

Machine Learning Certification, Stanford Online, *Coursera* *July – September 2019*
- Learned about supervised learning and unsupervised learning algorithms using MATLAB.
- Practiced error analysis on different learning systems.

Intern, Software Tester and Communications, Blaze Education, *Redmond, WA* *June – August 2018*
- Tested out company's virtual reality software Emoto, which allowed users to control characters and record movies and animation projects within a virtual world. Provided user feedback as well as ideas on where to improve and put resources towards.
- Helped pitch summer camps and demonstrated the company's proprietary software to potential clients and maintained good customer relations.

PROJECTS / RESEARCH:

A* Algorithm Shortest Path Visualizer, *Bellevue, WA* *August 2020*
- Created a 2-D shortest path visualizer using the pygame python library. Implemented the program using the priority queue variation of the A* search algorithm and the Manhattan distance formula as a heuristic based on the grid format.
- This project allows the user to place the start and end nodes in a grid display, and the program shows a visual display of the algorithm in action as well as the optimized shortest path.

Predictive Analysis of Movie Success from Datasets, University of Washington, *Seattle, WA* *March 2020*
- Utilized dataset scraped from IMDb movie database and used Python libraries such as Pandas, Scikit Learn, and Matplotlib to effectively visualize the data and predict the effects of features such as movie budget, production company, country of origin, genre, revenue, release date, run time, etc. on the success of a movie.
- This project provided insight on how aspects of a movie's production impact the gross revenue and the trends of movie genres over the years based on viewer ratings.

E-Stash, DubHacks, University of Washington, *Seattle, WA* *October 2019*
- Created a receipt stashing app as part of a four-person team competing in the biggest 24-hour hackathon in the Pacific Northwest. This application allows easy storage and provides convenience so users don't have to search through their emails or wallets to find certain receipts.
- Utilized Python and the Spyder IDE paired with Google Vision API for this project. Users input images of their receipts and the program will stash it into an inventory based off of data gathered from text detection.