

# Gurjaap Bal

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Eager Software Developer with the goal of gaining more experience to develop my skills as a Software Engineer.

## EMPLOYMENT

### Amazon SDE Intern

June 2024 - August 2024

- Implemented a feature to create contacts in bulk, involving UI design, configuring API calls, parsing and validating CSV's, updating redux state, and displaying progress updates
- Refactored redux slices to improve state handling in the Alexa fleet management console
- Solved customer-facing issues using efficient bug-finding techniques

### Orchard Machinery Corporation Intern

June 2022 - August 2022

- Extensive design experience on Solid Works creating machine components and fixtures
- Worked alone to solve real world issues like redesigning a bumper to allow for towing
- Teamed up with Mechanical Engineers in the industry to tackle large-scale problems such as modeling a conveyor belt assembly for a new machine

## EDUCATION

### Massachusetts Institute of Technology, Cambridge, MA

**4.8 GPA**

Bachelor's of Science in Computer Science and Engineering

*Feb 2025*

Minor in Mechanical Engineering

*Feb 2025*

### Relevant Coursework

Design and Analysis of Algorithms, Software Design, Software Construction, Computer Systems Engineering, Intro to Machine Learning, Fundamentals of Programming, Computation Structures

**Technical Skills:** Considerable experience with **Python, TypeScript, JavaScript, C, React, Redux, Julia, HTML, CSS, Git, Assembly**

## PROJECTS

### Photoshop Tool using TypeScript

- Developed a grammar and expression parser to read text inputs and edit an image
- Allowed for image resizing, overlaying images, adding text to an image, and gluing images together through Class implementations of an Expression Interface

### Platformer Game backend with Python

- Represented player and objects as sprites with attributes such as position coordinates and velocity vectors
- Designed a collision detection algorithm using hitboxes on each sprite and translation vectors to correct collisions

### Personal Website using the React framework

- Designed a React-based website using HTML for structure and CSS for styling
- Includes features such as a navigation bar and fully responsive design