

# Benjamin Hardy

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Github: <https://github.com/benjaminhardy28/Portfolio>

## EDUCATION

**Texas A&M College Station, TX** - Bachelors of Science, Computer Science

**4.0 | Graduation Expected 2026**

## SKILLS

- Languages: Java, Python, C++, JavaScript, HTML, CSS.
- Frameworks: React Js, Express Js, Node Js, React Native, Python Flask, Java Spring Boot.
- Technologies: PostgreSQL, Microsoft SQL Server, SQLAlchemy, SQLite, Postman, Github, Microsoft Excel/VBA, Selenium, Microcontrollers.

## PROFESSIONAL EXPERIENCE

### Software Development Intern

**Highland Village, TX**

**JUNE 2023- AUGUST 2023**

*E3 Integral Solutions*

- Optimized data extraction techniques through web scraping with Python requests, BeautifulSoup4, and Selenium to gather daily data for thermostats to increase data retrieval accuracy by 78%. Automated API calls to gather data using Perl.
- Architected a relational database using Microsoft SQL Server to store and map collected thermostat data to report generation software, storing over 30,000 thermostat records daily.
- Automated and sent out dozens of daily reports generated using Macro Commander Pro, Microsoft Excel, and VBA.

### Lifeguard

**Plano, TX**

**JUNE 2022- AUGUST 2023**

*City of Plano*

- Acquired and maintained proficiency in first responder skills such as First Aid and CPR to offer individuals in distress optimal support.
- Provided friendly customer service to guests and addressed concerns.

## PROJECTS

### Goal Setting Mobile App

**JANUARY 2024**

*Designed a mobile app to allow users to track their own progress in their goals while competing with friends.*

- Developed a user friendly front end featuring account creation functionality using React Native.
- Engineered a secure RESTful API with Node Js, Express Js, and PostgreSQL to retrieve user data securely with JWT tokens.

### Custom Notification Website

**JUNE 2023 - AUGUST 2023**

*Developed a website to allow users to create their own custom notifications based on changes in other websites' contents.*

- Built a RESTful API with Python Flask to accept JSON requests from the front end using React Js, CSS, and HTML and Axios. Included a login feature with JSON Web Token Authentication with Pyjwt, while implementing CORS for increased security.
- Deployed a relational database using SQLAlchemy to map different tables for users, desired notifications, and real time notifications.
- Utilized Python Requests, multithreading, and rotated proxies to optimize web scraping techniques. Integrated openAI API to generate notifications based on data collected from webpages' HTML properties.

### Foot Controlled Computer Keyboard

**AUGUST 2022 - JULY 2023**

*Constructed a fully functional computer keyboard designed to be used by the feet for individuals lacking upper body extremities.*

- Constructed with an Arduino DUE, 2-axis analog joysticks, mechanical keys, resistors, other electronic circuitry, C++, and Python.
- Programmed an interfacing tool GUI using tkinter and ttkbootstrap which utilizes multithreading, serial port communication, and SQLite3 to allow the user to customize and locally save layouts for the way the controller enters in different keys.
- Conducted comprehensive testing and optimization efforts to test keyboard latency, enhance program storage space by 33%, memory utilization by 45%, overall product usability, and ergonomic comfort within the scope of the project.

### Ocean Odyssey Platform Game

**MAY 2023 - JULY 2023**

*Directed a team project building a full stack Java platform game.*

- Built a Java Swing platform game from scratch including all animations, physics, and game states.
- Established a REST API with Spring MVC and Spring Data using Java Spring Boot to provide information about each user's scores.
- Designed the program layout and managed gravity, collisions, and entity dynamics using complex classes and OOP principles.
- Implemented multithreading to produce dynamic and quick response gameplay.

### Language Translator Device

**OCTOBER 2021 - DECEMBER 2021**

*Crafted a device to allow real-time language translation via audio input as well as image input of text.*

- Constructed the device using a Raspberry PI Zero w, a USB microphone, an LCD screen, and a camera.
- Used voice recognition commands to allow for translation of any speech from another language into the user's language of choice by using Google Speech-To-Text API and Google Translate API.
- Implemented feature for device to take pictures of text and translate it by using PyTesseract Optical Character Recognition API.

## AWARDS AND HONORS

- Ranked in the Top 10 people for the academic honor roll out of the entire AT&T Metroplex High School Hockey League.
- Awarded most improved player on Plano East High School Hockey team in the 2018-2019 JV season and 2021-2022 Varsity season. Led the 2022-2023 Varsity Team as an assistant captain.
- Awarded male rookie lifeguard of the 2022 summer at Jack Carter Pool.