

Ben Hardy

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EDUCATION

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

Graduation Expected 2027

SKILLS

- Familiar with Java, Python, C++, SQL, JavaScript, HTML, CSS, Microsoft Excel, and VBA
- Frontend/Backend Frameworks: React JS, Python Flask
- Developing and integrating APIs and web services for seamless full-stack web solutions
- Experience with physical hardware and electronics

PROFESSIONAL EXPERIENCE

SOFTWARE DEVELOPMENT INTERN

Plano, TX

E3 Integral Solutions

JUNE 2023- AUGUST 2023

- 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 SQL 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

City of Plano

JUNE 2022- AUGUST 2023

- 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

Notify Full Stack Website

- Developed a website to allow users to create their own custom notifications based on changes in other websites' contents. The front end was built using React js, CSS, HTML, and Axios for the API requests. Built a Restful API using Python Flask, HTTP routing, and SQLAlchemy. Included a login feature with JSON Web Token Authentication with Pyjwt, also implemented CORS for increased security.
- Utilized Python Requests, multithreading, and rotated proxies to optimize web scraping techniques. Used openAI API to generate notifications based on data collected from webpages' HTML properties.

Foot Controlled Computer Keyboard

- Constructed a fully functional computer keyboard designed to be used by the feet for individuals lacking upper body extremities using an Arduino DUE, 2-axis analog joysticks, mechanical keys, 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.

Language Translator Device

- Created a device made up of a Raspberry PI Zero w, a USB microphone, an LCD screen, and a camera to allow for real-time language translation via audio input as well as image input of text.
- Device is controlled by voice recognition commands and makes use of machine learning to translate languages. It allows the user to translate any speech from another language into the user's language of choice by using Google Speech-To-Text API and Google Translate API. The device can also take pictures of text and translate it by using PyTesseract Optical Character Recognition API and Google Translate API.

Ocean Odyssey Platform Game

- Directed a team project building a Java Swing platform game from scratch including all animations, physics, and game states. I designed the program layout and managed gravity, collisions, and entity dynamics using complex classes and OOP principles.
- Made use of multithreading to produce dynamic and quick response gameplay. Made use of strong Java skills, collaborative teamwork, and intricate game development skills.

RELEVANT COURSEWORK

- AP Computer Science A, AP Computer Science Principles
- Computer Science 3 Honors (Intro to Data Structures and Algorithms)

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.