Ethan Key

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EDUCATION

Boston University   **Expected May 2026**
Bachelor's Degree in Computer Science   *Boston, MA*
- **GPA:** 3.63, Dean's List: Spring '24, Fall '24
- **Relevant Coursework:** Data Structures and Algorithms, Software Engineering, Analysis of Algorithms, Computer Systems, Database Systems, Web Development, Concepts of Programming Languages, Intro to A.I.

EXPERIENCE

Human-to-Everything (H2X) Lab   **October 2024 - Present**
Software Development Research Assistant   *Boston, MA*
- Configured 250 real-world maps from nuScenes dataset by transforming OpenStreetMap data in RoadRunner to CARLA supported formats using Linux scripting and Python conversion libraries
- Developed and tested autonomous driving algorithms using the CARLA Python API, simulating urban environments, traffic scenarios, and sensor data to improve accuracy of decision-making models by 15%

BU Spark!   **September 2024 - December 2024**
Software Engineer Fellow   *Boston, MA*
- Coordinated research collecting information from 20 professionals and interns who are actively building user-facing software products to determine the most common web accessibility priorities for developers
- Engineered a Chrome extension with a connected REST API using Flask that scans developers' websites to calculate an accessibility score, identify inaccessible web page elements, and provide feedback on improving compliance with WCAG standards
- Built and deployed a web application enabling users to login via GitHub OAuth, view previous scan results, track accessibility progress, and collaborate via a community board, leveraging a Next.js, Go, and MongoDB stack
- Earned the Innovation Award for AccessiScan project, selected by judges at BU's Experiential Learning Expo

Best Buy   **September 2024 - December 2024**
Computing Department Associate   *Watertown, MA*
- Provided technical support for computing products including laptops, desktops, peripherals, and accessories
- Resolved customer software issues including trouble with operating system performance, application installation, and cloud storage

Hack4Impact   **January 2024 - May 2024**
Junior Development Team   *Boston, MA*
- Assisted club members in learning full stack web development projects using technologies such as React, JavaScript, Node.js, MongoDB, HTML, and CSS during weekly live coding workshops

PROJECTS

Global Conflict Visualization Tool   **January 2025**
Vite, React, TypeScript, Python   *Boston, MA*
- Composed a React application to visualize global conflicts of the 20th and 21st centuries, integrating datasets featuring 500+ distinct conflicts from Correlates of War and Uppsala Conflict Data Program
- Enhanced user interaction with a timeline slider, a filter to view conflicts by country and conflict type, and clickable regions on the map which provide data visualizations and detailed summaries of conflict zones

Stock Trading Simulator   **December 2024**
Python, Flask, SQLite   *Boston, MA*
- Developed a stock trading application incorporating the Alpha Vantage API to facilitate buying and selling stocks, as well as searching real-time and historical stock data
- Implemented secure account creation and user authentication, allowing users to view stock holdings, track performance over time, and calculate current portfolio value

Text Image Generator   **July 2023**
Swift, Figma   *Mansfield, TX*
- Created an iOS application which prompts the user for a text description then returns an AI generated image to the display, integrating DALL-E through the OpenAI API
- Designed the application's UI in Figma and implemented it with SwiftUI, utilizing MVVM design architecture

ADDITIONAL

Technical Skills: Python, Java, JavaScript, TypeScript, React, Next.js, HTML, CSS, MongoDB, SQL, Go, C, Swift