

Brandon Song

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EDUCATION

University of Texas at Austin
Bachelor of Science in Computer Science

Austin, TX
August 2019 - December 2024

PROJECTS

Pizza Order App | *Swift, Firebase* June 2023 – July 2023

- Implemented Firebase to enable user authorization and maintaining data persistency among users.
- Built segues between view controllers for increased user interaction and comfort.
- Utilized the Core Data framework to add saving functionality in order to recall previous pizza order drafts.
- Used multi-threading for asynchronous tasks.

tjdgkt.js | *Django, GraphQL, Vue.js, CSS* May 2023 – Present

- Developed a full stack CRUD blog web application using Django on the backend.
- Utilized GraphQL through Graphene-Django to query data from created and saved blog posts.
- Fetched GraphQL data through Apollo Vue plugin to cleanly display that data in Vue components.
- Visualized Vue components for a well-designed application using CSS.

Personal Portfolio | *HTML/CSS, Javascript* January 2024 – Present

- Developed a front end website using HTML/CSS to display my portfolio.
- Implemented small interactions for increased user engagement using Javascript.
- Optimized website to have better layout on mobile browsers.
- Deployed website using Netlify and hosted on Cloudflare servers for added security.
- Performed site maintenance as needed.

Compiler | *C, YACC/GNU Bison, Lex* January 2023 - May 2023

- Implemented a lexical analyzer in Lex to convert characters into tokens categorized by identifiers, keywords, numbers, and operators.
- Wrote a context-free parser in YACC to analyze statements and output intermediate code trees.
- Built a code generator using intermediate code as input to produce x86-64 assembly code.
- Optimized the compiler with methods such as constant folding and reduction in strength to generate 40% less assembly code.

Huffman Encoder | *Java* April 2022

- Developed a Java program based on the Huffman algorithm to parse through files, create encoding schemes, and compress them.
- Implemented a decompressor program using Huffman trees as input.
- Averaged a file size reduction of 20% from original files.

EXPERIENCE

Private Tutor July 2020 – December 2021

Self-Employed Austin, TX

- Communicated thoroughly with students to increase engagement and solidify concepts learned
- Prepared weekly instructional material to focus on areas students struggled on
- Assisted in reviewing material for quizzes and tests

TECHNICAL SKILLS AND INTERESTS

Languages: Python, Swift, Java, C/C++, HTML/CSS, JavaScript, Assembly (AArch64, x86)

Frameworks: Django, GraphQL, Vue.js, React, Node.js

Development Tools: Visual Studio, Docker, Xcode, Git, Github, Jupyter, Firebase, Node.js, Linux, Command line

Libraries: pandas, NumPy, Matplotlib

Soft Skills: Problem solving, Communication, Adaptability

Hobbies and Interests: Reading, Brewing coffee, Baking, Bouldering, Cinema, Photography