BRYAN HO

SOFTWARE ENGINEER

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EDUCATION

BACHELOR OF SCIENCE | Computer Science | University of Southern California | GPA 3.7 | May 2022
MASTER OF SCIENCE | Computer Science | University of Southern California | GPA 3.6 | January 2022–December 2022
AWARDS | Magna Cum Laude, Presidential Scholar, National Merit Scholar, Dean's List 2020-2022
RELEVANT COURSEWORK | Data Structures, Object Oriented Design, Machine Learning, Deep Learning, Artificial Intelligence, Data Science, Operating Systems, Algorithm Analysis, Natural Language Processing, Databases, Concurrency and Multi-threading, Embedded Systems, Multimedia Systems, Linear Algebra, Software Development, Computer and Network Security

SKILLS

PROGRAMMING LANGUAGES: Python | C++ | C | Swift | Java | JavaScript | SQL
FRAMEWORKS: React.js | Node.js | Express.js | jQuery | PyTorch | Scikit-Learn| HTML5 | CSS | XML | AJAX | SwiftUI
TOOLS: AWS | GCP | MySQL | Oracle | PostgreSQL | NoSQL | MongoDB | Apache | Git | NPM | Agile | Linux | Unix

WORK EXPERIENCE

USC COMPUTER SCIENCE DEPARTMENT | Course Producer | Los Angeles, CA — January 2022–May 2022

- Automated distribution and grading of homework assignments using **Python** scripting and **JSON**
- Assisted **300+** students with programming assignments during weekly office hours
- Interfaced with course faculty to schedule meeting times and office hours for **50+** instructors

BOEING | Engineering Intern | Long Beach, CA — June 2017–August 2017

- Streamlined data entry for airplane processing pipelines using **Python** and **Pandas** to process CSV data
- Improved airplane galley space utilization by **75%** via new designs using **Computer-Aided Design** and **3D Printing**
- Lead several community service projects to educate **500+** local students on S.T.E.M. basics

PROJECTS

AUTOMATED ESSAY SCORING AND FEEDBACK GENERATOR | Artificial Intelligence Application | Python
Research project on automated essay evaluation and feedback generation for English language learners. Utilized various natural language processing, machine learning, and deep learning strategies to develop and evaluate several essay evaluation models.

- Designed a custom essay evaluation model that combined a **Concurrent Neural Network, Long Short-Term Memory Model,** and **Attention Mechanism** to achieve **27%** improved performance over baselines
- Built a feedback model that provided actionable spelling and grammar critiques which increased essay scores by **2.4%**
- Trained and evaluated 4 baseline machine learning and deep learning essay evaluation models including **Neural Networks, Regression Models,** and **Attention Models**

VIBESET | Full-stack Application | JavaScript
Full-stack web application that creates Spotify playlists customized by duration, music genre, and energy level at specified points.

- Integrated **Spotify API** to perform authentication, generate playlists, and share user profiles
- Constructed a full-stack web application using **React, Node,** and **Express**
- Wrote a **specialized algorithm** to sort a playlist of songs by fluctuating energy level

FACULTY TEACHING ASSIGNMENT TRACKER | Full-stack Application | JavaScript
Web system designed for the USC Computer Science Department to coordinate and match faculty to course teaching assignments. The application consists of a dynamic web interface connected to a Google Sheets datastore to be used by non-technical staff.

- Overhauled legacy web system using **React** and **Google API** to improve efficiency, security, and user-experience
- Reduced process estimated time to completion by **50%** and eliminated nearly **100%** of errors