Son Mac

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EDUCATION

University of Arizona Aug 2019 – May 2023

- **Major:** Bachelor of Science in Electrical and Computer Engineering GPA: 3.92/4.0
- **Minor:** Mathematics
- **Coursework:** Object-Oriented Software Design, Computer Programming for Engineering Applications, Python Programming, Introduction to Web Design and Development, Fundamentals of Computer Organization, Basic Circuits, Statistical Methods

PROJECTS

Zendesk Ticket Viewer | React, HTML, CSS, JavaScript, Bootstrap, Reactstrap, Jest, Git, Netlify Nov 2021

- Developed an intuitive web user interface with React and Bootstrap components to present tickets as a responsive grid of cards with a modal-view to display more details of an individual ticket. Pagination is supported when there are more than 25 tickets to show.
- Referenced official Zendesk API docs and made requests to API endpoints to retrieve tickets using React hooks and Fetch API.
- Enhanced user experience with a loading component and an animated error page to safeguard API failures.
- Utilized Jest and React Testing Library to write 40 unit tests and achieve 65% code coverage.

NASALLERY | React, HTML, CSS, JavaScript, Bootstrap, Reactstrap, Git Jan 2022

- Built a photo gallery web app in React with Bootstrap styling to feature NASA astronomy picture of the day and showcase a random selection of 50 fascinating photographs of the universe in the past.
- Implemented web page interactions including highlighting favorite photos and generating a shareable link.

Restaurant System | Java, Swing, Object-Oriented Programming, UML, Acceleo, Papyrus, Eclipse Sep 2021 – Dec 2021

- Led a team of 3 to build a simulated Restaurant System by applying Object-Oriented Software design concepts.
- Created an interactive UI with Java Swing to allow a manger to perform tasks including hiring and firing employees, adjusting pay rate of chefs, and updating restaurant's menus, and allow customers to view menus, place orders, make payments, and write reviews.
- Designed UML diagrams to better visualize Object-Oriented models and their relationships.
- Organized Java classes in multiple packages and implemented inheritance and abstraction.

FPGA-based pipelined processor design | C, Verilog, MIPS, Vivado, QtSpim, Xilinx Artix-7 FPGA, Git Sep 2021 – Dec 2021

- Demonstrated a complete understanding of processor design through FPGA based implementation of a full scale pipelined datapath.
- Designed, implemented, and validated a five-stage pipelined datapath for the MIPS 32-bit ISA on the Xilinx Artix-7 FPGA.
- Implemented a video processing algorithm in MIPS ISA and executed on the FPGA-based emulation of the pipelined processor.

Patterns of Plant Species | R, Data visualization, RStudio Jun 2021

- Participated in a team of 6 and assisted professional biologists by applying Mathematics and Data Science concepts.
- Aggregated and visualized over 200,000 data points with ggplots to analyze the relationships between area of occupancy, age range, and diversification rate at species level.
- Designed R scripts to join datasets, categorize plants, and draw plots using RStudio and Kaggle notebook.

EXPERIENCES

Software Engineering Intern (Unpaid) | Skipli Jan 2022 – Present

- Work directly with CEO to design solutions that are operational, scalable, and easy-to-use for local restaurants and their customers.
- Integrate social media platforms (Facebook, Instagram, Yelp) to client dashboard, allowing content management in one place.
- Build an intuitive user interface using React and utilize Firebase Realtime Database to store and access user data.

Undergraduate Lab Assistant | University of Arizona Aug 2020 – Present

- Facilitate weekly lab sessions and office hours to help students understand basic programming concepts and troubleshoot their C code.
- Assist instructors with coding assignments and exam grading using Visual Studio 2019.

Undergraduate Teaching Assistant | University of Arizona Aug 2020 – Jan 2021

- Organized weekly class meetings to assist over 20 students in understanding materials and practicing Math problem-solving skills.
- Encouraged group discussions by promoting open-ended questions and offering hints to help students arrive at correct answers.
- Collaborated with other Teaching Assistants to oversee classrooms and proctor exams.

SKILLS

Programming: Python, Java, C++, C, JavaScript, HTML, CSS, R, MATLAB, Verilog, MIPS

Libraries: React, Node, Express, Jest, React Testing Library, React Router, Bootstrap, Reactstrap, Requests

Operating Systems: Linux, MacOS, Windows, Raspberry Pi OS

Tools: Git, GitHub, Twilio, Firebase, Postman, Netlify, Visual Studio Code, Eclipse, RStudio, Vivado, QtSpim, Word, Excel