

Moe Bazzi

SOFTWARE ENGINEER

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Summary

An engineer with a founder's vision, possessing a strong background in developing macOS applications, web browsers, web applications, and web extensions, underscored by a keen focus on product design and UI/UX. Eager to leverage expertise in advanced browser technology and front-end development to engineer seamless and efficient native and web solutions.

Experience

SigmaOS, Inc.

London, UK

WEB PLATFORM ENGINEER

November 2022 - January 2024

- Led the development of SigmaOS's web and Chrome extension platform, utilizing the **WebKit browser engine**.
- Customized WebKit by forking and modifying its source, allowing for the integration of our own WebKit builds into SigmaOS, resulting in significant web feature and performance improvements.
- Implemented missing or partially implemented web APIs in the WebKit open source repository such as **WebAuthn, Gesture Events, and WebSQL**, significantly improving SigmaOS's compatibility with various web standards and extensions.
- Utilized a diverse set of programming languages including **C++, Objective-C, Swift, SwiftUI, and JavaScript** to develop a range of solutions from WebKit modifications to SigmaOS UI enhancements and web content scripts.
- Developed specialized WebKit integrations, including **webpage color sampling, resource load intercepting, and tracking of HTML element focus and input**. These integrations enabled SigmaOS to introduce distinctive browser features such as **"Magic theme mode", support for uBlock Chrome extension, and a single-key shortcut system**, respectively.
- Improved SigmaOS's web performance by embedding critical functionalities directly into the browser engine, previously done through JavaScript injections, which led to a notable increase in the **Speedometer score from roughly 230 to 380**.
- Employed reverse engineering to understand Safari's WebKit integration, allowing SigmaOS to adopt similar strategies for a more efficient and feature-rich browser infrastructure.

Wove, Inc.

Remote

FRONT-END WEB ENGINEER

May 2022 - October 2022

- Developed core **React** UI and utility components so developers can more easily utilize core functionality across the product, while also providing flexibility by implementing an **extensible** approach to the components using **Typescript**.
- Collaborated with product designers to develop user interfaces and workflows, then translated the features into **API requirements** with back-end developers.
- Worked with QA engineers to test the functionality and UX of the web app.

University of Victoria - ISOT laboratory

Victoria, BC

FULL-STACK WEB ENGINEER

June, 2020 - October, 2020

- Developed a web client admin dashboard for a graph based intrusion detection and correlation system using vanilla **JavaScript, HTML and CSS**.
- Processed packet data in a variety of Java graph engines, to be visually displayed in an efficient and effective manner on the web client dashboard using **vis.js's network library**.
- Developed multiple features for user interfacing with the vis.js network graph, such as node searching, focusing, highlighting, clustering, and intelligent traversing.
- Developed and maintained a **Python script** for sniffing network packet data in real time to be processed by the Java graph engines.

National Research Council - Government of Canada

London, ON

EMBEDDED SYSTEMS ENGINEER

January, 2020 - April, 2020

- Developed and maintained embedded software on micro-controller systems such as **TIMERS, CAN, UART, GPIO** using **C and the stm32 HAL** for an autonomous robot.
- Designed and developed a **CAN (Controller Area Network) bus system** consisting of multiple micro-controller nodes that enabled a robot to communicate and process information between its motor and sensor systems.
- Evaluated **cyber-attack surfaces** of a Connected Autonomous Vehicle (CAV) research vehicle (Ford Edge 2018) and demonstrated **cyber intrusion and sensor spoofing events** on a Hardware-In-the-Loop (HIL) bench.

Central Dental

Windsor, ON

FULL-STACK WEB ENGINEER

September, 2019 - December, 2019

- **Planned, developed and shipped a web ecosystem** for a Dental Office including patient and office administration facing **web apps**, both powered by a single **RESTful API** in order to work in tandem.
- Met with client throughout the Software Development Life Cycle, **acquired requirements, usability and business needs**, and developed project with a complete **agile approach**, from planning to the shipping phase.
- Both web apps built with **React**, with completely **custom and reusable components** for future projects of this nature.