Sebastián Arrazola

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SUMMARY

Full Stack Web Developer with 4+ years background in mechanical and electrical engineering and 3 years of team leading experience in a fast-paced, test-oriented environment. Experience working with remote teams and global stakeholders involving markets in North American, South American, and European regions. Belief in the "no stone unturned" approach to problem-solving and meeting challenges. Competent in writing SQL queries, possess both MySQL and NoSQL experience. Knowledge of version control systems (Git) and modern version control for use in continuous deployments. Experience working with RESTful JSON APIs, Curl Commands, SQL, scripting languages, and debugging.

TECHNICAL SKILLS

Full-Stack: Angular, Bootstrap, CSS, ES6, Express.js, Git, Git Bash, HTML, JavaScript, JQuery, Komodo Edit, MongoDB, MySQL, Node.js, PWA, React, Robo 3T, SQL, Visual Studio, Windows Terminal.

Engineering: ANSYS (FEA), Arduino, Autodesk Inventor (CAD), Catia (CAD & FEA), Creo Parametric (CAD), Engineering Equation Solver (EES), Excel, Flight Control System Design, Matlab, Processing (Java), PSpice, Siemens NX (CAD), SolidWorks (CAD & FEA).

Laboratory: 3D Printing Rapid Prototyping, ATI Vision (Data Acquisition), Circuit Board Prototyping, Lathe, LabVIEW, LCR & DC Leakage Electrical Measurements for Capacitors, Mill, Programmable Logic Boards, Ricardo WAVE 1-D engine/ gas dynamics simulation, Robotics, Simulink.

PROJECTS

Ashen Void | https://github.com/SeaBa55/Ashen-Void | https://ashen-void.herokuapp.com/

- An online tower defense game built using a MERN stack framework to deliver a unique user experience, implements responsive web design for an optimal user interface and incorporates custom design elements.
- Implemented front-end web technologies to create interactive player solutions and conducted UI research tailored for game development to learn user needs, and produced custom graphic designs from new and existing work products.
- Applied agile workflow to carry out project lifecycle and find creative solutions to enhance front-end optimization.
- Utilized knowledge of browser testing and debugging and applied best practices to write clean, tested, and modular code for future implementations.
- Technologies used: MongoDB, Mongoose ODM, Express, React, Node.js, Passport, Webpack, PWA, HTML, CSS, Javascript, Bootstrap.

Avalon | https://github.com/SeaBa55/Avalon | https://avalon-web-app.herokuapp.com/

- A traditionally played card game created into a virtual format for a multi-player experience. This full-stack web application was designed and built using the MVC paradigm with a custom and RESTful server-side API.
- Implemented testing, continuous integration and linting tools (Travis CI, ESLint) used to develop clean code, debug, and optimize scripts.
- Collaborated with front-end team members to develop and implement creative game design for user experience, following agile methodology.
- Technologies used: Express, Express-Session, Express-Handlebars, Passport, Socket.io, Sequelize, Node.JS, JQuery, HTML, JavaScript, CSS.

Employee Tracker | https://github.com/SeaBa55/employee-tracker | https://youtu.be/zVsruSLPKLQ

- A CLI application designed for employers to view and manage departments, roles, and employees to better organize and plan their company.
- Designed as a Content Management System (CMS) solution for managing company employees.
- Technologies used: Node.js, Inquirer.js, and MySQL.

PROFESSIONAL EXPERIENCE

HEV On-Board Diagnostics (OBD-II) Calibration Engineer Sept. 2017—Present
Ford Motor Company *Dearborn, MI*

- Lead and manage an OBD team of seven calibration engineers, report to internal stakeholders, and monitor the status of task completion under tight "go-fast" deadlines.
- Responsible for OBD fault coordination, documentation, and validation of Powertrain Control Module software.
- Coordinate new OBD feature specifications, algorithm development, prototype validation, and software release planning.
- Identify and report functional deficiencies, track issues, and propose resolutions to software strategists and management.
- Collect faulted OBD emissions data in dyno lab to assess compliance with Global standards and regulations, including the California Air Resources Board (CARB) OBD-II regulations.

HEV Calibration Release Engineer Sept. 2016—2017
Ford Motor Company *Dearborn, MI*

- Evaluated and assessed vehicle attributes (performance, fuel economy, NVH) on vehicles and in engine dynamometer test cells.
- Modified vehicle and powertrain control calibrations to improve fuel economy, performance, emissions, and diagnostics.
- Designed and validated control algorithms to meet functional, regulatory, and safety requirements.
- Utilized LabVIEW for vehicle battery charging and on-cycle energy consumption data acquisition.
- Performed MATLAB data analysis to produce combined fuel economy measurements to meet best-in-class targets.

Research Lab Assistant Jan. 2016—Aug. 2016
Center for Advanced Life Cycle Engineering *College Park, MD*

- Analyzed degradation of tantalum capacitors due to humidity and thermal exposure.
- Manually collected LCR and DC Leakage electrical measurements routinely and logged them in excel for examination.
- Automated test data acquisition via implementation of LabVIEW controlled multiplexers connected to the LCR and DCL measurement devices, thermocouples, and humidity sensors within test chambers.
- Produced MATLAB script to process large amounts of collected data, to evaluate key degradation characteristics for each type of capacitor tested.

EDUCATION & CERTIFICATIONS

Professional Certificate in Full Stack Web Development Nov. 2020
Michigan State University College of Engineering

- A 24-week intensive program focused on HTML, CSS, BootStrap, JavaScript, JQuery, MERN Stack, API Interaction (includes AJAX, JSON), MySQL/NoSQL

Microprocessors & Embedded Systems Fall 2017
UM-Dearborn College of Engineering & Computer Science

- Course focus on modern digital computer logic; Numbers and coding systems; Boolean algebra with applications to logic systems; combinational and sequential logic design; simple machine language programming; microprocessors-programming, input/output, interrupts, and system design; Assembly and C/C++

B.S. in Mechanical Engineering May 2016
University of Maryland A. James Clark School of Engineering

- Course highlights: Computer-Aided Design, Heat Transfer, Electronics & Instrumentation, Vibrations & Controls, Automotive Design Theory, Vehicle Dynamics, and Fundamentals of Internal Combustion Engines
- Dean’s List: Fall 2015, Spring 2016