

Zoe Hay

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Objective

I am pursuing a software engineering role coming from an electrical engineering background.

Skills

JavaScript, Python, AWS EC2 and IAM, React, NGINX, HTML, CSS, Angular, TypeScript, Jest, C, Java

Software Experience

Python Automated Bench Evaluation

Analog Devices

Built a test suite in Python to automatically evaluate integrated circuit products. This process was previously performed manually. Developed a library to set up test conditions by controlling equipment, such as power supplies and a microcontroller, then collect and process measurements.

Personal Website www.zoemhay.com

Ongoing personal project

Set up an AWS EC2 instance, configured NGINX to serve personal portfolio site over SSL/TLS. Configured NGINX to serve my E-Commerce React app and act as a reverse proxy for the backend Node server.

E-Commerce Application

Ongoing personal project

Building an e-commerce web application that supports a shopping cart for authenticated users and a separate admin interface for managing products and users. Backend: ExpressJS, Prisma ORM, PostgreSQL, Jest for unit and integration tests. Frontend: React, React Router, Styled Components. Functional testing with Playwright.

Angular E-Commerce Application

Ongoing personal project

A rewrite of E-Commerce Application's frontend using Angular and TypeScript. Connects to same Node server as E-Commerce Application.

Work Experience

Senior Hardware Engineer, Design Evaluation Engineering @ Analog Devices

2018 - 2022

- Developed automated test suite in Python to replace manual bench evaluation
- Supported development of new power product integrated circuits including controllers and gate drivers
- Evaluated first silicon functionality, detected and resolved issues, performed failure analysis
- Collected datasheet characterization curve measurements, performed lab bench testing to verify automated tester results, coordinated and debugged with test engineers to ensure consistent results
- Designed and built boards for lab evaluation (schematic drawing, component selection, assembly)

Design Engineer Intern @ Linear Technology, Analog Devices

Summer 2017

- Investigated dielectric characteristics for use in high performance linear regulator applications, characterized effect of set capacitor on low dropout regulator performance
- Used a thermal chamber to study the effect of temperature on a circuit, performed technical investigations for the LDO team, reworked demo circuits for novel applications, integrated off-the-shelf components into real-world applications

Electrical Engineering Intern @ Rantec Power Systems

Summer 2016

- Assisted electrical engineering team in the design and manufacturing of power supplies and power conversion products
- Updated assembly procedures and testing documentation
- Simulated and analyzed circuits, sized components based on system requirements
- Investigated and resolved issues involved in manufacturing power supplies

Publications

Kappa Switching DC-DC Converter with Continuous Input and Output Currents

Summer 2019

Physically implemented and performed testing for new converter topology invented by colleagues. Collected waveform captures, efficiency and EMI measurements

Multiphase Implementation of Modified Boost Converter

Fall 2017 - Spring 2018

Designed and implemented a 95W, two-phase interleaved, modified boost converter with reduced input current ripple. Performed performance comparison with standard boost converter

DC House Energy Management System

Fall 2016 - Spring 2017

Implemented and improved an energy management system adding a bidirectional DC-DC converter. Designed to integrate into the DC House project

Education

California Polytechnic State University, San Luis Obispo
B.S + M.S. Electrical Engineering, June 2018