Kevin D. Zuniga Cuellar

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Education

The University of Vermont | Burlington, Vermont Aug 2023
Master in Mechanical Engineering
Thesis: *Tools to measure dispersion descriptors from polymer nanocomposites*
Bachelor of Science in Mechanical Engineering, Minor: Computer Science May 2020

Technical Skills

Programming Languages	JavaScript, TypeScript, Python, Go, Java
Technical Tools	AWS, Azure, Linux, Mac, Git, CI/CD, Testing, OOP, Machine Learning
Web Technologies	React, Vue, Solid, Next.js, CSS, Astro, Firebase, Supabase, WebAssembly
Server Technologies	Express, MySQL, Node, Docker, PostgreSQL, MongoDB, ORM

Relevant Experience

Astro Sep 2022 – Present
Open Source Maintainer *Remote*

- Collaborated on the development of a meta-framework that utilizes island architecture to significantly enhance website performance and speed, resulting in a lower First Contentful Paint (FCP), Largest Contentful Paint (LCP), and Cumulative Layout Shift (CLS), thereby improving the overall user experience.
- Improved user experience and reduced troubleshooting by developing and reviewing product documentation, ensuring clarity and accessibility for both end-users and developers.
- Authored the official Content Management System (CMS) and multiple backend and application integration and deployment solutions, encompassing platforms such as Firebase, Supabase, AWS, and GitHub Pages, facilitating seamless and versatile third party application integration and deployment.
- Demonstrated commitment to community support by effectively triaging and resolving over 100 issues on GitHub and Discord, ensuring a responsive and helpful environment for our user base.

University of Vermont – College of Engineering Sep 2021 – Aug 2023
Graduate Research Assistant *Burlington, VT*

- Developed a user-friendly interface enabling non-technical users to query a graph database effortlessly, eliminating the need for writing complex SPARQL queries.
- Enhanced image binarization performance by 30% while also extending its capabilities and optimizing the deployment process.
- Led the successful migration of the codebase from Matlab to Python, resulting in a substantial 20% boost in server performance, streamlining data processing and analysis.
- Developed a browser-based image segmentation tool using WebAssembly, reducing response times from 1 minute to an average of ~300ms, enhancing real-time data processing and user experience.
- Processed image data and metadata to create advanced features for further research studies, providing valuable context and enabling future machine learning studies to extract more information about data relationships and patterns.

Amazon Feb 2021 – Sep 2021
Maintenance Technician II *Seattle, WA*

- Conducted routine preventive maintenance and effectively diagnosed and troubleshooted fulfillment center machinery, ensuring optimal operational conditions..
- Improved warehouse shipping efficiency by 5% through the development of a new preventive maintenance schedule and the standardization of diagnostic documentation, contributing to a streamlined and more reliable workflow.

Manantial Hotel Nov 2020 – Dec 2020
Frontend Engineer *Seattle, WA*

- Designed and developed web user interfaces using React and optimized backend services with AWS, enhancing overall website performance..
- Achieved a remarkable 60% improvement in website speed while also reducing operational costs by 40% through the implementation of a serverless architecture.
- Significantly boosted organic search rankings for high-competition keywords in the hotels and hospitality sector, moving from page 5 to the top 3 positions, enhancing the hotel's online visibility and attracting more organic traffic.

University of Vermont - College of Engineering Dec 2016 – May 2020
Undergraduate Teaching Assistant *Burlington, VT*

- Collaborated with professors in the planning, assessment, and documentation of daily lessons and laboratory activities for courses including MATLAB, AutoCAD, SolidWorks, and Digital Control & Embedded Systems.
- Facilitated student learning by providing guidance and support in classroom activities, enabling a better understanding of complex technical subjects.
- Contributed to the academic success of students by offering additional help outside of regular class hours, fostering an environment of academic growth and achievement.

Open Source and Personal Projects

Binarized

- Developed "Binarized," a web application that utilizes WebAssembly to transform images into black and white directly in the browser.
- This innovative tool provides an efficient way to convert images to black and white, enhancing the user experience by performing the transformation without the need for server-side processing.

Px86

- Created "Px86," a Python to x86 Assembly compiler, entirely developed in Python..
- Px86 serves as a powerful tool for translating Python code into x86 Assembly, facilitating efficient low-level programming and enhancing code optimization.

Anonymous Admirers

- Developed "Anonymous Admirers," a social media application for sharing missed connections around the University of Vermont campus.
- User-friendly interface built with Next.js and React for a responsive and engaging user experience.
- Backend powered by Node.js with serverless functions for optimal performance
- Utilized MySQL for database management, ensuring data integrity and reliability.
- Awarded 3rd place in the UVM CS Fair 2021 - Advanced Web.

Remark-code-title

- Developed "Remark Code Title," a Remark plugin that enhances markdown code blocks by adding customizable titles. Users can configure and style these titles using CSS, providing a flexible and visually appealing solution for code block management in Markdown documents.

Youtube Comments Spam Labeler

- Created a machine learning model in Python to label spam in YouTube comments with 80% accuracy.

GIF Finder

- Developed "GIF Finder," a React-based website designed to facilitate the search for GIFs.
- Leveraged the Giphy API to enable users to seamlessly search for GIFs, providing an enjoyable and interactive experience for users seeking animated content.

MaterialsMine

- Collaborated in the development of an open-source data repository for nanocomposite data.
- Technologies used: JavaScript (Vue.js for the frontend, Node Express for the backend).

Co-author Generator

- Designed and implemented "Co-author Generator," a GitHub utility written in TypeScript.
- This tool extracts contributors from pull requests and generates a formatted string of co-authors, facilitating proper attribution to all participants in a pull request. It enhances collaboration and recognition within the GitHub community.

Starlight

- Collaborated in "Starlight" a documentation integration tool written in TypeScript for Astro.
- Starlight empowers users to effortlessly generate comprehensive documentation websites utilizing content in markdown, MDX, or Markdoc formats. This project streamlines the documentation process, enhancing accessibility and user experience for content creators.
- Technologies used: TypeScript, Astro

Certifications and Awards

- AWS Solutions Architect Associate
- Microsoft Azure Fundamentals