

Dirk Wilson

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Education

University of California, Santa Cruz

Computer Science B.S.

Santa Cruz, CA

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Work Experience

SyncQ

Software Engineer

July 2024 - Present

- Developed an automated **Retrieval-Augmented Generation (RAG)-based AI pipeline** that scrapes and processes online API documentation, enabling the retrieval of relevant API document chunks for the **Large Language Model** to generate accurate, context-aware API queries.
- **Prompt engineered** models to incorporate the context retrieved from the RAG-based pipeline, as well as additional steps in the pipeline for query refinement, verification, and structured output, **increasing the accuracy of generated queries by the model by 34%**.
- Assisted in an annual security review required by the software companies we integrate into, assessing and **resolving 46% of network security vulnerabilities** that existed in our application and websites. Using tools like **ZAP (Zed Attack Proxy)**, identifying 15 security flags, then implementing system-wide updates to both front-end and back-end files, enhancing the overall security and performance of our application and website.
- **Delegated to lead over 100 meetings** with existing and potential customers, integrating our software into clients' environments, **increasing their business record-keeping efficiency by 30%**. Guided clients through our onboarding process, configuring the application to meet their unique business needs, and resolved real-time issues by collaboratively identifying and implementing solutions.
- **Investigated over 40 user-reported errors** by analyzing server logs, stack traces, and API responses to pinpoint root causes. For business validation errors, reviewed user logs to identify missing required fields in API calls and responded to users with a solution. For application-related issues, traced process steps to isolate the problem and created detailed bug reports for lead engineers to resolve, ensuring consistent stability of the application.
- **Redesigned the UI/UX** with a cleaner, more modern interface, **resulting in 20% more streamlined navigation**, more intuitive user flow for using our core features, and a cleaner interface focusing on minimalistic design. Using **Figma**, increased clarity of core features used, reorganized underutilized elements, and visually refined the application's configuration settings, record data display, and synchronization between CRM and accounting systems while aligning with current design standards.

Projects

Slug Meter (github.com/Shiblumi/SlugMeter)

- Developed the front-end of Slug Meter, a senior capstone project involving a 5-person engineering team, which processes live gym occupancy data and transforms it into intuitive, visually engaging displays.
- **Lead front-end developer** among two front-end engineers, utilizing **React** to build the structure of the application, its visual design, and functionality of its interactable front-end elements.
- Independently converted the project from a locally running demo application into a web-hosted application accessible on the net, **migrating both front and back-end files to properly interface in the cloud**, enabling our team to use the hosted version of the project as the central platform to validate the correctness of new iterations.
- Developed in an **agile/scrum environment**, leveraging these methods to delegate team-members to prioritize the completion of core features to meet deadlines, ensuring time to test its proper functionality before further iteration.

Skills

- Technical skills: React, NextJS, ExpressJS, Figma, Webflow, PydanticAI, Python, C++, Java, JavaScript, SQL
- Soft Skills:
 - **Adapts swiftly to new technologies** (e.g., Figma, NextJS, Pydantic AI).
 - **Temperament and communication** skills fit for collaborating in team environments, delegating tasks based on members' strengths, and guiding both technical and non-technical members in conversations.