

# Shivam Ratnani

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## EDUCATION

University of Wisconsin-Madison: BS - Computer Science

September 2022 - May 2025

University of Wisconsin-Madison: BS - Data Science

September 2022 - May 2025

## WORK EXPERIENCE

Couillard Solar Foundation | Software Developer

August 2023 - Present

- Built an interactive web-based visualization tool showcasing solar energy output for seven Deerfield, WI arrays, highlighting the impact of renewable energy in small communities. This involved leveraging the Svelte framework for UI development and Vite for efficient build and deployment.
- Implemented interactive UI components and data visualizations using a tech stack comprising Svelte, Node.js, React.js, JavaScript, CSS, Plotly.js, ESLint, TypeScript, Cron, and SQL. This ensured a responsive and user-friendly experience while maintaining code quality and scalability.
- Integrated Firebase and Github Actions for seamless real-time database interactions, authentication, and hosting services. This facilitated efficient data management and deployment processes.
- Developed a state management strategy and hot module replacement (HMR) implementation, paving the way for future scalability and potential migration to SvelteKit. This demonstrated foresight and a focus on future-proofing the application.

IHConcepts | Lead Software Developer

August 2023 - Present

- Architect and implement high-performance single-page applications (SPAs) using React, Next.js, and HTML, leveraging cutting-edge libraries and frameworks to deliver a dynamic and user-friendly experience. This includes designing the user interface, writing clean and efficient Javascript code, and ensuring cross-browser compatibility. You will also be responsible for optimizing performance and ensuring accessibility across various devices.
- Develop and maintain reusable UI components utilizing TypeScript, SCSS, and HTML, adhering to IHConcepts' design standards and best practices. This requires a strong understanding of object-oriented programming concepts, modular development principles, and the ability to write clean and maintainable code. Expertise in styling languages and their application to web development is essential.
- Contribute to the development and improvement of IHConcepts' internal tooling and libraries, utilizing Vue.js, Nuxt.js, and Javascript, to streamline internal processes and enhance developer productivity. This involves collaborating with other engineers to identify areas for improvement, designing and implementing solutions, writing maintainable Javascript code, and ensuring high code quality.
- Champion the adoption of new technologies and best practices in the front-end development domain, actively participating in knowledge-sharing sessions, code reviews, and mentoring junior developers. This includes staying abreast of the latest trends, showcasing your expertise through internal presentations, and contributing to the team's technical growth.

PerkinElmer Inc. | Information Technology Intern

July 1st 2021 - August 30th 2021

- Worked with remote users to cross-network and provide files to remote employees.
- Operated and managed a network involving user accounts, company computers, doorcards, printers, and server storage.
- Repaired problematic computers and set up computers for new employees.
- Managed customer accounts using Google's admin suite.
- Created documentation for application usage, system integration, and data transfer.

## PROJECTS

Website | [github.com/shivamratnani/shivamratnani.github.io](https://github.com/shivamratnani/shivamratnani.github.io)

- Created a website using HTML and CSS Styling
- Improvised my website using React.js and Material UI elements allowing it to contain a dark mode feature, reactive buttons, and mobile device compatibility
- Uses Github Actions to host React app on shivamratnani.github.io and a server through AWS to host a personal photography website

Mobile Task Application | [github.com/shivamratnani/Flutter-Task-App](https://github.com/shivamratnani/Flutter-Task-App)

- Specializes in cross-platform and native iOS app development, utilizing Flutter and SwiftUI to deliver a highly responsive task management application that adheres to Apple's Human Interface Guidelines.
- Enhances user experience by implementing core iOS design elements, animations, and integrating features like widgets and Siri shortcuts for optimal app performance on iOS devices.
- Integrates advanced functionalities such as real-time notifications and iCloud syncing, ensuring seamless task management and device synchronization for users.

Amazon Web Scraper | [github.com/shivamratnani/Amazon-Web-Scraper](https://github.com/shivamratnani/Amazon-Web-Scraper)

- Engineered a Python scraper to collect Amazon product data, utilizing BeautifulSoup, Selenium, and requests for web parsing, browser automation, and HTTP interactions.
- Designed data storage solutions using CSV format for the efficient organization and retrieval of product names, prices, ratings, reviews, and URLs.
- Deployed dynamic browser driver management and robust error handling, ensuring seamless functionality and data accuracy.
- Packaged the application into an executable for ease of use, with documentation highlighting maintenance and update requirements.

Connect 4 Game | <https://github.com/shivamratnani/Connect-4>

- Developed a 2 player game of Connect 4 containing multiple difficulty levels with a graphical user interface, demonstrating proficiency in object-oriented programming and game development logic.
- Designed game state management using custom methods for horizontal, vertical, diagonal, and draw checks within the checks class to determine game outcomes.
- Implemented user interactions through the Java Scanner class for input handling, allowing players to place pieces on a graphical interface.
- Constructed a user-friendly graphical interface using Java Swing, allowing for interactive gameplay with button-based column selections and panel-based board visualization.

## SKILLS

Languages: Java, Python, C#, C, C++, HTML, Javascript, CSS, R, SQL, SwiftUI, TypeScript, LaTeX

Frameworks: React, Svelte, Node.js, JQuery, TensorFlow, Keras, Plotly

Tools: Git, Github, Github Actions, Docker, AWS, Google Cloud Platform, Microsoft Azure, R Studio, VS Code, IntelliJ, Eclipse, PyCharm, XCode, Vite, ESLint, Firebase

Libraries: Material UI, pandas, NumPy, Matplotlib, REST APIs