

# Prasant Koirala

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## TECHNICAL SKILLS

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**Languages:** JavaScript, TypeScript, Python, C++, C, SQL, C#

**Frameworks:** React, Node.js, Express.js, Django, HTML5, CSS3

**Tools:** Git, Vercel, REST APIs, Docker, Azure

## EXPERIENCE

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### Web/App Development Intern

Jun. 2025 – Present

*Optimal Answers, LLC*

*Gulfport, Mississippi, United States*

- Contributed to internal C# software by debugging and optimizing database navigation logic, enhancing UI responsiveness, and workflow efficiency for staff.
- Collaborated cross-functionally with the design and data teams to implement usability improvements and feature enhancements across the company's web and software platforms.
- Set up and deployed a full staging environment for the company's custom website, enabling safe testing and streamlined updates.
- Performed a comprehensive site backup and executed a targeted bug-fix rollout that improved site stability, reduced navigation issues, and boosted customer retention.

### SAT Teacher

Jan. 2024 – Jul. 2024

*Nepalese Encounters Education Consultancy*

- Taught SAT prep classes to multiple student cohorts in Math and English.
- Helped raise students' average SAT scores by 20% (from 1100 to 1320).

## PROJECTS

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### Chell – A Custom Shell in C | C, Unix/Windows

Mar. 2025

- Designed and implemented a lightweight Unix-like shell in C with cross-platform support for Windows and Unix-based systems, featuring custom command execution, built-in commands, command history, and pipeline support.
- Engineered a custom command parsing and execution system that efficiently handles user input, demonstrating expertise in low-level system calls and process management.

### Personal Status | C++, Windows API, REST | (Has Users)

Jun. 2025

- Built real-time desktop monitoring system using C++ and Windows API that tracks development activity and pushes status updates to the portfolio website via secure REST API
- Developed cross-platform web integration with threaded architecture, local HTTP server, and Vercel API endpoint featuring API key authentication and JSON data exchange

### Song Review Platform | React, Node.js, Express, MySQL

Jan. 2025

- Made a website to review songs available on Spotify. Users can give ratings to songs, and leader leaderboard is available for the songs according to their genre.
- Handled backend logic and database schemas for secure user input and data display.
- Coded Production Level code and made sure the website was safe from common attacks like SQL injection and DDoS attacks.

### Spotify to ytmusic | React, Django, MySQL

Jun. 2025

- Developed a full-stack playlist migration application using React.js frontend and Django REST API backend, implementing OAuth 2.0 authentication flows for both Spotify Web API and YouTube Music API, with cross-origin session management via localStorage and Base64 token encoding
- Built automated music catalog matching engine that processes Spotify playlist metadata, performs intelligent song search queries against YouTube Music's catalog using fuzzy matching algorithms, and creates corresponding playlists with comprehensive error handling and transfer status reporting

## EDUCATION

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### The University of Southern Mississippi

Hattiesburg, MS

*Bachelor of Science in Computer Science, GPA: 4.0*

*Aug. 2024 – Dec 2027*