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Rushil Patel

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Results-oriented MS CS student with 1 year of experience as a Full Stack Developer and a track record of delivering high-quality results, optimizing performance, and enhancing user satisfaction. I am proficient in TypeScript, JavaScript, HTML5, CSS3, and Python, and have extensive experience developing cutting-edge web applications using Node.js, React.js, Express.js, and MongoDB.

WORK EXPERIENCE

Full-Stack Developer   **Logical Loop**   **Oct 2021 - July 2022**
Carat Control   *Surat, India*

- Spearheaded a firm's transition to a paperless practice by implementing a faster and safer web-based inventory management and accounting system, improving employee productivity by 40% and reducing accounting errors by 75%.
- Reduced front-end development time by 30% and improved code maintainability by creating modular, reusable Material UI components using React.js and TypeScript.
- Achieved sub-second (< 1 sec) page load times by optimizing the website's performance (deployed on Vercel) with the help of lazy loading and code-splitting techniques.
- Bettered average MongoDB query time from 2.5 to 1.1 seconds through pagination, indexes, projections, and other query optimization and server caching techniques (using Node.js and Express.js, deployed on Heroku).
- Decreased the total testing time in half and produced more reliable results by automating front-end tests (through Jest.js, Puppeteer.js) and back-end tests (through Mocha.js, Chai.js).
- Eliminated most production issues and reduced deployment time by 65% by streamlining the build, test, and deploy pipelines (using GitHub Actions, Vercel, and Heroku).
- Adopted best practices from Agile and CI/CD, resulting in faster feedback loops and tripling the frequency of releases.
- Documented the entire system and made dedicated user guides, reducing the number of meetings by a third and allowing for more efficient communication.

EDUCATION

M.S. Computer Science, *University of Florida, Gainvesville, USA*   **Aug 2022 - Present**
B.Tech. Computer Science, *Ahmedabad University, Ahmedabad, India*   **July 2018 - May 2022**

PERSONAL PROJECTS

TwittEr: Twitter in Erlang
- Designed a console-based Twitter clone in Erlang with 10+ features, including user search, tweets & retweets, subscriptions, follower management, and a real-time tweet timeline.
- Lowered the code complexity by 60% (and removed boilerplate code altogether) by incorporating generic behaviors in the back-end system (made with Cowboy).
- Reached near real-time database performance (request-response latency under 2.2 ms, in Mnesia) by switching to a fast, hash-based user authentication and authorization mechanism.

MinEr: Miner in Erlang
- Developed a highly distributed, scalable (proof-of-concept) cryptocurrency miner in Erlang and enhanced its flexibility with the help of 5 different hashing algorithms.
- Attained a hash rate of 10K Hs/s (on each node) by employing a custom, distributed mining approach that uses concurrent, lightweight, and highly parallelized worker processes.
- Used supervision trees to make the system more fault-tolerant and eliminated 80% of all runtime errors with the help of Erlang's robust error-handling mechanisms.

A.M.P: Audio Manipulation Program
- Integrated 4+ signal processing operations (such as amplification, upsampling/downsampling, noising/denoising) to build a feature-rich, multi-windowed audio workstation in MATLAB.
- Coded 5+ audio playback features (like play, pause, resume, fast-forward, and slow-down) and comprehensive audio recording features, including real-time audio waveform visualization.
- Programmed 3+ multi-audio editing features (cutting, copying, pasting, and merging audio samples) that are robust, comprehensive, and easy to use, enabling users to manipulate audio files and create custom compositions.

SKILLS

Languages	Python, HTML5, CSS3, JavaScript, TypeScript, C, C++, C#, Java, Erlang, Elixir, Bash, Markdown, LaTeX
Libraries/Environments	NodeJS, Express.js, ReactJS, ReduxJS, React Router, PuppeteerJS, JestJS, MochaJS, ChaiJS
Databases	MongoDB, MySQL, PostgreSQL, SQLite, PLSQL
Platforms	GitHub, Vercel, Heroku, Netlify, Google Cloud, Microsoft Azure, Amazon Web Services, Firebase
Miscellaneous	Linux, Git, JSON Web Token, Material UI, Postman, Visual Studio Code, Replit, OverLeaf, Google Colab, Jira, Trello, Figma, Invision, MATLAB, Wolfram Mathematica, GitKraken, Miro