

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

*Carat Control*

### Logical Loop

*Surat, India*

April 2021 - July 2022

- 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, Gainesville, USA

Aug 2022 - May 2024

**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