Pranshu Raj

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Projects

Plagiarism Detector | *Java, Winnowing fingerprint algorithm* March 2025 – Ongoing

- Designed and implemented a Java-based Winnowing-algorithm plagiarism detector, processing two 42-fingerprint codebases in under 200 ms per comparison to achieve a 78.7% similarity detection rate.
- Optimized token-extraction pipeline (comment stripping, identifier normalization) to reduce false positives by 15% and support real-time analysis of 5 KLOC inputs.
- Engineered a configurable WinnowingConfig module (k-gram size, window size, normalization flags) that increased matching-section recall from 60% to 85% across diverse Java code samples.
  https://github.com/PranshuRaj1/Plagiarism

Eazze | *Node JS, Inquirer, Chalk* September 2024 – October 2024

- Streamlined installation and configuration of User Interface libraries by eliminating 10+ manual steps, slashing setup time by 30%.
- Spearheaded development and release of an NPM package that garnered over 450 weekly downloads and surpassed 2,000 cumulative downloads.
- Consolidated popular UI libraries—Chakra, Shadcn, and PrimeReact—to cut project setup time by 25% and elevate developer productivity.
- Sustained package integrity and compatibility with 15+ systematic updates, ensuring a consistently optimal developer experience. https://www.npmjs.com/package/eazze

Payment Application | *ReactJS, NodeJS, Tailwind, Recoil* August 2024 – September 2024

- The initial page load duration, recording a time of 1,022 milliseconds, aligning with sub-1.1 second user experience benchmarks.
- Measured TTFB (8 ms) by computing Performance Navigation Timing entries to validate ultra-low server latency.
- The interval between user submission and result rendering, achieving a response time of 1,266 milliseconds, indicating efficient backend processing and frontend rendering. https://github.com/PranshuRaj1/Bank

QuickGrab | *React, Auth0, Groq API, Tailwind* July 2024 – August 2024

- The application exhibits an initial load time of 468 milliseconds, which is well within the optimal range for web applications. This swift load time enhances user experience by reducing waiting periods.
- With a TTFB of 13 milliseconds, indicating efficient server performance.
- Delivered real-time results in under 1266ms via Groq API. https://the-llm.vercel.app/

Education

VIT Bhopal University Bhopal, India
Bachelor of Technology in Computer Science Engineering *July 2022 – Present*
CGPA: 8.35/10

Kendriya Vidyalaya A.G.C.R. Delhi, India
Class XII *May 2021*
Percentage: 86.0%

Achievements

Led a team to secure First Place in the 2024 Firefox Expedition Programming Competition, organized by the Firefox Club of VIT Bhopal.

Achieved Knight status by solving over 900+ problems and attaining a peak rating of 1882, ranking in the top 4.91% of participants.

Other

Technical Skills: Java, JavaScript, HTML, SQL, TypeScript, ReactJS, NextJS, MongoDB, Tailwind, Redux Toolkit

Soft Skills: Leadership, Active Listening, Operational Skills, Collaboration

Certifications: Java, Python (HackerRank, 2023), Bits and Bytes of Computer Networking (Google, 2024)

Languages: English (Fluent), Hindi (Fluent)