Utpal Raj

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utpalr.vercel.app

Education

B.Tech in Computer Science (Data Science)   *2023–2027*
SRM Institute of Science and Technology, Kattankulathur
CGPA: 9.53

Intermediate (Class 12)   *2020–2022*
St. Thomas Senior Secondary School (CBSE)
Percentage: 88.8%

Achievements

- 1st Place – Web3/Crypto Track, OSSome Hacks 2.0 (GitHub Community SRM)
- 3rd Place – AI Project Expo, SRM Institute of Science and Technology
- Solved 300+ DSA problems and achieved a contest rating of 1600+ on Leetcode.

Work Experience

Frontend Developer Intern – Optivix AI   *Aug 2025 – Oct 2025*
optivixai.com

- Built and maintained the startup's production website using React and Tailwind CSS.
- Implemented responsive layouts and optimized page performance and SEO.
- Developed basic analytics dashboards to track user interactions and traffic metrics.

Freelance Web Developer   *2025 – Present*

- Delivered multiple client-facing single-page and multi-section websites using React, JavaScript, and Tailwind CSS.
- Translated business requirements into functional UI components and interactive features.
- Managed end-to-end delivery including requirement clarification, iteration, and deployment.
- Worked with real clients to deliver production-ready websites under timelines and changing requirements.

Technical Skills

Languages: C++, Python, Java
Core CS: Data Structures and Algorithms, Object-Oriented Programming, RESTful API Design, Basic Operating Systems Concepts
Backend & Web: Spring Boot, Node.js, Express, WebSockets (basic), React, JavaScript, Tailwind CSS
Libraries & Tools: Git, GitHub, OpenCV, NLTK

Projects

- **Docify – GitHub Repository Explainer & README Generator (Ongoing)**   GitHub
  Python, NLP, LLM APIs
  - Building a Python-based tool to analyze GitHub repositories and automatically generate structured explanations and README documentation.
  - Implementing repository parsing and preprocessing pipelines for file hierarchy analysis, code chunking, and metadata extraction.
  - Integrating LLM-driven workflows to infer project purpose and architecture from source code.
- **The Architect – AI-Powered Code Analysis Studio**   Demo | GitHub
  JavaScript, HTML, CSS, API   *Dec 2025*
  - Built an AI-based web application for deep static code analysis across execution flow, failure modes, performance, and learning-oriented explanations.
  - Designed a configurable prompt-engine with multiple depth levels, producing outputs from concise summaries to exhaustive technical breakdowns.
  - Implemented modular analysis layers including design intent, trust boundaries, mental models, simulations, and knowledge checks.
- **Performist – Real-Time Web Performance Monitoring System**   GitHub
  React, Node.js, Express, WebSockets, JavaScript   *Jan 2025*
  - Designed an end-to-end system to collect and visualize real-time web performance metrics such as API latency, error rates, and throughput.
  - Built a client-side JavaScript SDK to capture browser performance data and send it to the backend.
  - Designed a Node.js + Express backend to ingest metrics and stream live updates using WebSockets.
  - Developed a React-based dashboard to display real-time analytics and system health indicators.
- **Text Comparison Tool**   GitHub
  Python, NLTK, Tkinter   *Mar 2024*
  - Built a desktop application to compare documents and identify textual similarities and differences.
  - Implemented tokenization and similarity scoring using NLP techniques and Python's difflib.
  - Designed a simple GUI to visualize differences for academic and document analysis use cases.

Certifications

- Programming in Java – NPTEL
- Python 101 for Data Science – IBM
- Image Processing, MATLAB Onramp – MathWorks
- Deep Learning & Machine Learning – MathWorks
- Certificate of Achievement – HackWithIndia