Utpal Raj

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GitHub | LinkedIn

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%

Work Experience

Developer – Tagzzs *2025 – Present*
tagzzs.com

- Part of core development team in building an AI-based platform for structured knowledge ingestion and retrieval.
- Developed core frontend architecture and full-stack features for the web application.
- Optimized data ingestion pipelines to normalize and organize unstructured inputs.
- Contributed to backend services supporting scalable data flow and API integrations.

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 performance and SEO.
- Developed analytics dashboards to track user interactions and traffic metrics.

Freelance Web Developer *2025 – Present*

- Delivered client-facing websites using React, JavaScript, and Tailwind CSS.
- Translated business requirements into functional UI components.
- Managed end-to-end delivery including iteration and deployment.

Technical Skills

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

Projects

Key Projects Docify – GitHub Repository Explainer & README Generator (Ongoing) GitHub
Python, NLP, LLM APIs

- Developing a Python-based system to analyze GitHub repositories and automatically generate structured documentation.

- Implemented repository parsing and preprocessing pipelines for file hierarchy analysis, code chunking, and metadata extraction.
- Integrated LLM-driven workflows to infer project purpose, architecture, and design rationale 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 analysis of codebases, covering execution flow, failure modes, and performance considerations.
- Designed a configurable prompt engine enabling outputs from high-level summaries to detailed technical breakdowns.
- Implemented modular analysis layers including design intent, trust boundaries, mental models, simulations, and knowledge validation.

Performist – Real-Time Web Performance Monitoring System   GitHub
React, Node.js, Express, WebSockets, JavaScript   *Jan 2025*

- Designed and implemented an end-to-end system to collect, stream, and visualize real-time web performance metrics.
- Built a client-side JavaScript SDK to capture browser-level performance data and transmit it to the backend.
- Developed a Node.js and Express backend to ingest metrics and broadcast live updates using WebSockets.
- Created a React-based dashboard to monitor latency, error rates, throughput, and overall system health.

Additional Projects

- **Text Comparison Tool** (Python, NLTK, Tkinter)
  Desktop application for document similarity analysis using NLP-based tokenization and similarity scoring.
- **Image Enhancement System** (Python, OpenCV)
  Implemented image processing techniques for noise reduction, contrast enhancement, and visual quality improvement.
- **Scientific Calculator** (Python, Tkinter)
  GUI-based calculator supporting advanced mathematical operations and expression evaluation.
- **Personal Notepad** (Java / Python)
  Lightweight note-taking application with local persistence and a simple user interface.
- **Age and Gender Detection** (Python, OpenCV)
  Computer vision system for real-time age and gender classification from live camera input.

Certifications and Achievements

- Programming in Java, Introduction to Machine Learning – NPTEL
- Python 101 for Data Science – IBM
- Image Processing, Deep Learning & Machine Learning – MathWorks
- 1st Place – Web3/Crypto Track, OSSome Hacks 2.0
- 3rd Place – AI Project Expo, SRM Institute of Science and Technology
- Solved 300+ DSA problems; LeetCode rating 1600+