

# Vaibhav Upadhyay

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## EDUCATION

### Vellore Institute of Technology

Bachelor of Technology in Computer Science, CGPA - 9.28/10

Chennai, Tamil Nadu

Aug. 2023 – May 2027\*

### St. Francis School

Intermediate - 92%

Varanasi, Uttar Pradesh

May 2020 – May 2022

### New Public Inter College

High School - 96.2%

Lucknow, Uttar Pradesh

May 2018 – May 2020

## EXPERIENCE

### Generative AI Research Intern

Vellore Institute of Technology

May 2025 – Jul. 2025

Chennai, India

- Conducted research on applying Generative AI to enhance learning outcomes in computer science education.
- Developed an Automatic Question Generator aligned with Bloom's Taxonomy for adaptive assessment.
- Worked on AI-powered answer scoring by fine-tuning sentence embeddings to evaluate responses.

## PROJECTS

### Convo | React, Zustand, Tailwind CSS, Node.js, Express, MongoDB, Socket.io

Feb. 2025

- Designed and developed a full stack real-time chat application with authentication, user presence, and messaging features using Web Sockets.
- Built a scalable REST API using Node.js, Express, and MongoDB, handling user authentication and chat functionality.
- Implemented Zustand for state management, Axios for API requests, and cookies for authentication tokens.
- Integrated CI/CD practices for automated deployments, improving development workflow and reliability.

### Multithreaded Web Scraper | Go, Colly, Goroutines, HTTP, Linux Containers

Nov. 2024

- Developed a high-performance web scraper using Go and Colly, capable of extracting and storing web content efficiently.
- Implemented concurrency using Goroutines and WaitGroups to enable parallel scraping of multiple websites.
- Designed a robust error-handling mechanism with logging to track failed requests and forbidden URLs.
- Built an integrated HTTP server to serve scraped HTML files, allowing users to access results directly in browser.
- Deployed the scraper inside a custom Linux container, ensuring portability and reproducibility across different environments.

### MindMatters (FOSSit Hackathon) | Python, Flask, HTML, CSS, JavaScript

Apr. 2024

- Developed a mental health tracking website to help users monitor their well-being and access resources.
- Integrated an interactive chatbot for mental health guidance and relaxation games to promote stress relief.
- Implemented a Mental Health Score Calculator and features such as relaxing music, videos, and podcasts
- Built a therapist appointment scheduler with Google Meet integration for seamless virtual consultations.

## TECHNICAL SKILLS

**Languages:** Java, Python, C/C++, Go, JavaScript, TypeScript, SQL, HTML/CSS

**Development Tools:** React.js, Node.js, Express.js, MongoDB, WebSockets, REST APIs

**Libraries & Frameworks:** Pandas, NumPy, Matplotlib, Seaborn

**Other Skills:** Data Structures & Algorithms, Machine Learning, Generative AI

## CERTIFICATIONS

**Supervised Machine Learning: Regression and Classification** | Coursera

May. 2025

**GEN AI using IBM Watsonx** | IBM

June 2025