

Piyush Singhal

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EXPERIENCE

Web Development Intern

June 2024 – August 2024

The Sparks Foundation

Remote

- Engineered a secure and highly scalable full-stack banking system using **HTML**, **CSS**, **JavaScript (ES6)**, and **MySQL**, featuring user authentication, transaction tracking, and balance updates via **RESTful APIs**.
- Implemented **JWT auth**, **bcrypt hashing**, and session handling for secure user management; optimized backend and SQL for **30% faster** response time using modular **MVC architecture**.
- Managed version control using **GitHub** and **GitHub Actions**, tested APIs with **Postman**, and deployed a containerized instance using **Docker** for real-world performance simulation with **100+ simulated users**.

PROJECTS

YouTube Comment Sentiment Analysis Platform | [GitHub Link](#) [Website Link](#)

- Built an NLP-driven sentiment analysis platform using **Python**, **Google Colab**, and **Anvil**, achieving **92% classification accuracy** on **1000+ YouTube comments**.
- Integrated **YouTube Data API** for data collection and applied **TextRank** for topic extraction; visualized trends using **Matplotlib** in a real-time **Anvil UI** dashboard.
- Reduced latency by **40%** and processing overhead by **35%** through API optimization, efficient data handling, and deployment via **Docker** and **Google Drive API**.

PDF Chat Application Analysis | [GitHub Link](#) [Website Link](#)

- Architected AI-powered PDF assistant using **LangChain**, **OpenAI LLMs (GPT-3.5)**, and **FAISS**, enabling semantic search and real-time document-based Q&A with over **90% response accuracy**.
- Implemented document parsing and semantic indexing using **PyPDF2** and **HuggingFace/BERT** embeddings, enabling users to perform accurate context-based queries through scalable **FAISS**-powered vector search.
- Developed a lightweight, production-grade **Streamlit UI** with multi-tab navigation and async handling; deployed via **Docker** to efficiently serve **500+ real-time queries/day** on low-memory systems.
- Collaborated with a team of peers using **Agile practices**, including sprint planning and code reviews, and communicated progress regularly through virtual stand-ups and GitHub issue tracking.

Smart Study Management Platform | [GitHub Link](#) [Website Link](#)

- Developed full-stack AI-powered study management using **Next.js 16**, **TypeScript**, and **Supabase**, achieving **95%** Lighthouse score and reducing manual planning time by **70%** through intelligent study plan generation.
- Architected scalable **REST APIs** and **PostgreSQL** database with row-level security, implementing real-time analytics dashboards that optimized query performance by **60%** and increased user engagement by **45%**.
- Built responsive UI with **Tailwind CSS** and **OAuth 2.0 authentication (Google)**, achieving **100% WCAG accessibility compliance** and reducing bounce rate by **35%** through optimized UX design.

EDUCATION

NIMS University

Jaipur, India

Bachelor of Technology in Computer Science(3rd Year), CGPA: 9.16/10

2023 – 2027

ACHIEVEMENTS

- Solved **500+ DSA problems** on platforms like **CodeChef** and **LeetCode**, strengthening core coding skills.
- Secured **AIR 83** among **20,000+ participants** in **CodeChef Starter 184 (2025)**.
- Completed **GenAI Mastery Workshop (OpenAI × NxtWave Buildathon)** with hands-on exposure to **LLMs**, **prompt engineering**, and **OpenAI APIs**.
- 1750+ rating** on **CodeChef**, **1400+ rating** on **Codeforces** and **1700+ rating** on **Leetcode**.

TECHNICAL SKILLS

Programming Languages: C, C++, Python, Java, JavaScript, SQL

Web Technologies: React.js, Node.js, RESTful APIs, HTML, CSS, Bootstrap, Next.js, Typescript

AI/ML Stack: LangChain, LLMs (GPT, BERT), NLP, Sentiment Analysis, PyTorch, Anvil

Tools: Git, GitHub Actions, Google Cloud, Kubernetes, PyPDF2, Google Colab, Streamlit, Docker

Core Concepts: Data Structures and Algorithms, OOPS, DBMS, CN, CI/CD, Agile, Teamwork, Communication