

ABHINAV SINGH

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Indore, India

EDUCATION

Vellore Institute of Technology

B.Tech in Computer Science and Engineering; Expected Graduation: Sep 2026

Bhopal, India

2022 – 2026

PROJECTS

Mini Search Engine | Python, GCP, Docker, Distributed Systems

[GitHub](#) | [Live Link](#)

- Developed a distributed web crawler and inverted indexing system enabling fast, large-scale content retrieval for a custom search engine.
- Implemented TF-IDF and PageRank algorithms to ensure high ranking accuracy and optimized search queries using multithreading techniques.
- Reduced average query latency by 45% via implementation of caching mechanisms, parallel search execution, and load-balanced service deployment.
- Containerized the entire application and deployed it on Google Cloud Platform (GCP) using Docker to ensure high scalability and fault tolerance.

DocaCast: AI-Powered PDF-to-Podcast | FastAPI, Gemini AI, React, Docker

[GitHub](#) | [Live Link](#)

- Secured a Semifinalist Rank (Top 100) in Adobe Hackathon 2025 among 90,000+ teams by engineering a high-performance FastAPI and Gemini AI backend.
- Optimized processing pipelines to ingest and convert 200+ page PDF documents into natural narration podcasts in under 3 seconds.
- Integrated cross-document embeddings with Adobe PDF Embed API to enable contextual navigation and synchronized audio, boosting engagement by 40%.
- Deployed the microservices architecture on Google Cloud using Docker, achieving 99% uptime and reliability under high-concurrency demo conditions.

LEADERSHIP & TECHNICAL EXPERIENCE

Linpack Club, VIT Bhopal

Bhopal, India

Dec 2023 – Aug 2025

Technical Lead

- Spearheaded a technical team of 10+ members to deliver 5+ AI and automation projects, which were showcased at major university technical events.
- Organized and managed a university-wide hackathon with over 200 participants, overseeing technical mentoring, judging criteria, and event logistics.
- Conducted hands-on workshops on MATLAB, LaTeX, and Artificial Intelligence for 100+ students, significantly boosting technical engagement and skill development on campus.
- Led technical initiatives including coding workshops and student innovation programs to foster a culture of development and open-source contribution.

TECHNICAL SKILLS

Languages: Java, Python, SQL, HTML/CSS

Core CS: Data Structures, Algorithms, Object-Oriented Design, System Design, OS, Networking

Backend: FastAPI, Node.js, RESTful APIs, Microservices, Kafka, MongoDB, PostgreSQL

Cloud & DevOps: Google Cloud Platform (GCP), Docker, Linux/Unix, Git, CI/CD (GitHub Actions)

Tools & Frameworks: React, Tailwind CSS, Redis, Firebase, Multithreading, WebSockets

ACHIEVEMENTS

Adobe Hackathon 2025: Achieved Semifinalist Rank (Top 100) among 90,000+ participating teams, demonstrating excellence in problem-solving and software innovation.

Community Leadership: Recognized for leading Linpack Club initiatives, directly impacting the technical growth of the student body through hackathons and workshops.

CERTIFICATIONS

DevOps Fundamentals – IBM (2025)

Agile Methodologies – IBM (2025)