

Mohit Nair

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Education

B. E. Ramaiah Institute of Technology, Information Science

Bangalore, India
Nov 2022 – present

- **CGPA:** 9.29/10.0
- **Relevant Coursework:** Data Structures, Design and Analysis of Algorithms, Operating Systems, Digital Systems and Computer Organization, Database Management Systems, Computer Vision, Theory of Computation, Computer Networks

Projects

smarn

github [↗](#)

An privacy-focused, open-source, local, Linux implementation of Windows Recall

- Acquires screenshots through a systemd service that self-regulates the frequency of capture (based on cosine similarity with the prior screenshot)
- Uses an locally-run image-embedding model (jina-clip) to acquire screenshot embeddings, and store them in an sqlite-vec based database without any API calls or breach of privacy.
- Provides a local user-friendly frontend to search and view recalls, with a focus on privacy and security.

densAIr

github [↗](#) live [↗](#)

An Arxiv research paper-reading assistant

- Uses a RAG Agent with Upstash to index and Chonkie to chunk for effective and performant retrieval within a Research Paper.
- Augments Gemini API summaries with Exa Search API to provide key terms, summaries, citations, motivation, and concise explanations about figures and tables.
- FastAPI Backend deployed on Google Cloud.

xivvy

github [↗](#)

A dockerized, production ready, Semantic Search Engine for arXiv papers.

- Makes extensive use of caching results from the Qdrant Vector Database.
- A timely and regular embedding pipeline using cron.
- Allows date and domain filters over search, leveraging the feature-rich nature of Qdrant.

sfnx

AUR [↗](#) github [↗](#)

A command-line password manager with an emphasis on local storage and security

- Uses SQLite, Argon2, and bcrypt along with AES encryption for secure password storage.
- Implements a Typer CLI that is user-friendly.
- Uses a master password, which is also securely initiated and stored.

ritlepage

live [↗](#) github [↗](#)

A web application to generate titlepages for reports and assignments (RIT)

- Go-to app for students at RIT to generate titlepages for their reports and assignments with 100% uptime.
- Developed using NextJS, TailwindCSS, and frontend deployed on Vercel.
- FastAPI Backend deployed on Google Cloud Run.

Skills

Programming Languages: Python, Typescript, C, C++, Javascript

Frameworks and Libraries: FastAPI, Pandas, Matplotlib, Scikit, NumPy, NextJS, ReactJS, TailwindCSS, Typer, Langchain, Transformers, AuthJS

Cloud Computing: AWS EC2, Vercel, AWS S3

Databases: SQLite, PostgreSQL, FAISS, LibSQL (Turso), Qdrant

Tools: Linux, Git, GitHub, Visual Studio Code, Bash, Docker