Arpit Gupta

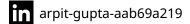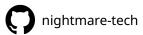✉ arpitguptaa@proton.me   💼 arpit-gupta-aab69a219   ⊙ nightmare-tech   📞 9891757362

OBJECTIVE

Dedicated Computer Science Engineering student seeking a challenging opportunity to apply and expand my skills in full-stack software development, cloud computing, and systems programming. Eager to contribute to innovative projects and gain hands-on industry experience.

SKILLS

- **Languages:** C/C++, Bash, Python, Rust
- **Miscellaneous:** Git, Linux, Cybersecurity, Networking, SQL, MongoDB, ChromaDB
- **AI/ML:** AI21 LLMs, Retrieval Augmented Generation (RAG), Text Embeddings
- **Front End Development:** HTML, CSS
- **Back End Development:** Python (Flask, FastAPI)

WORK EXPERIENCE

- **IGT Solutions,** Gurgaon, Haryana | May 2025 - July 2025
  Intern (Trainee Program)
- Participated in an intensive trainee program focused on developing AI-driven applications and modern software engineering practices.
- Key deliverable involved the independent design and development of the "Chatty" AI-powered RAG chatbot (detailed in Projects section).

PROJECTS

PWD_Vault | Python, Bash, Cryptography   github.com/nightmare-tech/PWD_Vault
- A CLI password manager for secure everyday use.
- Implemented PBKDF2 & SHA-256 encryption
- Master password authentication
- Emphasized usability & security

Secure Storage | Python (Flask), HTML, CSS, Cryptography   github.com/nightmare-tech/secure_storage
- Developed "Secure Storage" Web Application: file storage and management
- Prioritizing data security and ease of use.
- Implemented AES-256 Encryption

ROSS (Rust Operating System from Scratch) | Rust   github.com/nightmare-tech/ross
- Developed minimalist OS from scratch:
- Built using Rust to explore memory-safe systems programming and OS architecture fundamentals.
- Leveraged Rust's memory safety
- Ongoing project: Deepening expertise in OS internals (process scheduling, memory allocation, I/O systems).
- Designed as a learning platform: Experimenting with kernel development, hardware interaction, and Rust's ownership model.

Chatty | Python (FastAPI), MongoDB, ChromaDB (Vector DB for RAG), AI21 (LLM), JWT   github.com/nightmare-tech/chatty
- Developed as a capstone project during Internship at IGT Solutions.
- Built an AI-powered RAG chatbot using FastAPI (Python), AI21 (LLM), ChromaDB (vector store), and MongoDB.
- Developed a Retrieval Augmented Generation (RAG) system, enabling the chatbot to query a custom knowledge base populated via a document ingestion pipeline (PDF, TXT, MD).
- Implemented JWT authentication and managed user interactions and chat history with MongoDB.
- Utilized Sentence Transformers for generating text embeddings for semantic search within ChromaDB.

EDUCATION

- **VIT Bhopal University,** Madhya Pradesh, India | Sep 2022 – Aug 2026)
  B.Tech, Computer Science Engineering

CERTIFICATES

- **An Introduction to Artificial Intelligence, NPTEL |** May 2024