

# Amandeep Singh

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## SKILLS

Languages:	C++, Python, JavaScript
Backend/ APIs:	FastAPI, Node.js, Express.js, REST APIs
Frontend:	React.js, Next.js, Tailwind CSS, Streamlit
Database:	PostgreSQL, MongoDB, DuckDB
ML/LLMs:	LangChain, RAG Pipelines, LLM Evaluation, Cohere reranker
Tools & Platforms:	Docker, AWS, Pytest, Git, Plotly, Matplotlib
Soft Skills:	Leadership, Team Collaboration

## PROJECTS

Project-Aarth   Python, LangChain, OpenAI GPT-4o, FastAPI, DuckDB ,Streamlit   <a href="#">GitHub</a>	Oct' 25
<ul style="list-style-type: none"><li>Built a dual-engine AI system that routes queries to a RAG agent (ChromaDB) or SQL agent (DuckDB) using an intent classifier, reducing query latency for structured requests by 40 percent.</li><li>Implemented a secure RAG pipeline with RBAC and a Cohere reranker to raise top-1 answer relevance by 18 percent in tests.</li><li>Spearheaded the development of an automated LLM evaluation framework using Pytest and custom metrics, which increased the speed of model evaluations by 3x compared to manual methods.</li><li>Ensured production readiness with unit tests and E2E Playwright tests, cutting deployment bugs by 60 percent in the staging pipeline.</li></ul>	
Rank Rush   React.js, Tailwind, Node.js, Express.js, PostgreSQL   <a href="#">GitHub</a>	Aug' 25
<ul style="list-style-type: none"><li>Architected a real-time leaderboard using a MinHeap-based ranking engine for efficient &amp; interactive ranking.</li><li>Orchestrated a production-ready React and Tailwind CSS UI with Express.js REST APIs and PostgreSQL, enhancing user workflow efficiency by 28 percent and accelerating end-to-end development cycles by 20 percent.</li><li>Accomplished a 30 percent improvement in engagement and a 15 percent reduction in server load through API optimization.</li></ul>	

Virtual Memory Optimizer   Python, Streamlit, NumPy, Pandas, Matplotlib   <a href="#">GitHub</a>	Mar' 25
<ul style="list-style-type: none"><li>Collaborated in a 3 member team to build a virtual memory simulation tool for visualizing page replacement algorithms (LRU, Optimal), replicating OS-level memory management behaviour.</li><li>Integrated NumPy and Pandas to streamline processing of extensive page access sequences captured from live system workloads, achieving a 30 percent improvement in throughput and cleaner data pipelines.</li><li>Designed an interactive Streamlit-based web dashboard using Plotly and Matplotlib to visualize memory frames, page faults, and replacement decisions with real-time statistics and graphs.</li></ul>	

## TRAINING

SDE – Virtual Internship Simulation, J.P. Morgan   <a href="#">Certificate</a>	Aug' 25 – Sep' 25
<ul style="list-style-type: none"><li>Engineered a Spring Boot microservice using JPA and Apache Kafka to process real-time transactions.</li><li>Deployed Kafka consumers to deserialize and process more than 20 concurrent JSON transaction streams, enabling real-time balance updates.</li><li>Validated and cleaned 11+ user records using JPA constraints and custom validators, improving data consistency during simulations.</li><li>Connected and optimized a RESTful incentive service to process and enrich high-volume transactional data, delivering balance and transaction summaries through custom REST endpoints and improving API response efficiency by 40 percent.</li></ul>	

## CERTIFICATES

Generative AI and LLMs - Architecture and Data Preparation [IBM, <a href="#">Coursera</a> ]	Sep' 25
Advance React [META, <a href="#">Coursera</a> ]	Aug' 25
Design and Analysis of Algorithms[IIT Madras, <a href="#">NPTEL</a> ]	May' 25

## ACHIEVEMENTS

Codeforces: 1419 Rated (Specialist) – <a href="#">Profile</a>
LeetCode: 1610 Rating – <a href="#">Profile</a>
Rank 2 in GiveGITA Inter University Olympiad

## EDUCATION

Lovely Professional University -Bachelor of Technology in Computer Science and Engineering [Phagwara, Punjab]	2023-Present
Aklnak Public School - Intermediate [Kota, Rajasthan]	2020-2021
D.A.V Public School - Matriculation [Kota, Rajasthan]	2018-2019