





Jatin Aggarwal

Bathinda, India

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EDUCATION

Thapar Institute of Engineering & Technology

B.E. in Computer Science - CGPA: 7.75

Sep 2022 – Present

Patiala, India

EXPERIENCE

Xoxoday

Backend Engineering Intern

02/2026 – Present

Bengaluru, India

- Designing and generalizing **scalable vendor integration APIs** using **Node.js** and **Express.js**, creating **reusable backend architectures** that standardize communication across multiple **third-party vendor ecosystems**.
- Building **modular middleware** and **service layers** to streamline API onboarding, enabling **faster vendor deployment cycles** and reducing **integration complexity** across distributed systems.
- Collaborating on **production-grade backend infrastructure** focused on **performance, reliability, and extensibility**, laying the foundation for **high-volume transactional workflows**.

Deloitte

Technology & Transformation Intern

06/25 – 08/25

Gurugram, India

- Architected a secure **Flask** middleware utilizing **Azure AD (OAuth2)** and **Microsoft Graph API** to automate Excel updation and email workflows, reducing manual latency and improving compliance tracking by **60%**.
- Developed secure **admin and user dashboards** using **Next.js** and **PostgreSQL** for tracking and updating skill levels, with role-based authentication and analytics for skill development insights.
- Implemented **password hashing** and authentication workflows to ensure secure user access.

PROJECTS

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

- Developed an end-to-end **AI trading platform** using **FastAPI, React, and Supabase** for **real-time market analytics**, portfolio management, and interactive charting.
- Implemented an **Agentic RAG architecture** using an **LLM and FinBERT** with context injection, and live stock & news sentiment analysis.
- Engineered a **live-learning voting ensemble (XGBoost + Random Forest)** trained on normalized Nifty market data, enabling **adaptive trade signals** under shifting market regimes.

Automated Invoice Processing System | [Link to GitHub](#)

- Designed and deployed an end-to-end RPA solution using **UiPath** to automatically monitor emails, extract invoice attachments, and process them using **OCR** and **NLP**; automated workflow reduced manual processing time by over **90%**.
- Built a **React.js** dashboard for invoice review, with **OpenCV** highlighting mismatches on PDFs and instant email alerts via **SMTP**.
- **Selected among finalists at Deloitte Hackspllosion'25** for innovation in enterprise automation.

Furniture Recommendation System | [Link to GitHub](#) | [Live Link](#)

- **Built an end-to-end recommendation system** using **FastAPI, Pinecone, and SentenceTransformers** for semantic and conversational product search.
- **Integrated LLM-based reasoning (Groq)** for intent understanding, query refinement, and context-aware recommendations.
- **Designed a scalable backend architecture** with embedding pipelines, vector indexing, and analytics support for real-time inference.

Paper2Digital Plugin | [Link to GitHub](#)

- Developed a custom **Moodle Plugin** helping educators to upload handwritten assignments directly into LMS for automated digitization.
- Architected a **Python-based microservice** on **Snowflake** to process uploaded documents, utilizing **LangChain** and **OCR** to parse and structure unstructured data.
- **Selected as a Finalist at NatWest Hack4aCause 2025** for delivering a scalable, open-source solution.

Multi-Modal Biosignal based Control of 6-DoF Exoskeleton Arm

- **Designed a multi-modal deep learning system** integrating EEG, EMG, and EOG signals to decode motor intent for controlling **11 upper-limb movements** of a **6-degree-of-freedom exoskeleton arm**.
- **Built a biosignal processing pipeline** handling **70+ channels** across multiple recording sessions, implementing attention-based LMDA-inspired model and decision-level multimodal fusion.
- **Validated motion control and system behavior** using a **physics-based PyBullet simulation**, evaluating multiple fusion strategies and neural architectures to ensure real-time feasibility and scalability.

TECHNICAL SKILLS

Languages: C/C++, JavaScript, Python, SQL, MATLAB

Libraries & Tools: ReactJS, Node.js, Express.js, Next.js, MongoDB, TailwindCSS, Bootstrap, Git, Supabase, UiPath, TensorFlow

ACHIEVEMENTS

- **Finalist, Deloitte Hackspllosion'25** – Among **Top 15** out of 3000+ national teams.
- **Finalist, NatWest Hack4aCause 2025** – Open Source Hackathon, creating a plugin for Moodle.
- **Design Head, MLSC** - Developed an interactive 3D website using Three.js and organized a cryptic hunt for **300+ participants**.