

Devansh Verma

Founding Engineer @ Genrise.AI

Bachelor's in Mathematics and Scientific Computing, IIT Kanpur (2022-2026)

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Achievements

- Founding-engineer (PPO) at Genrise.ai; earned a second PPO and cohort-high profitability in the Trading & Research internship at Axxela
- Secured **State Rank 1** in **National Talent Search Examination (NTSE)** conducted by NCERT in the year 2020
- Secured **International Rank 4, 25 and 13** in three consecutive **National Cyber Olympiad** conducted by SOF
- Received the **Academic Excellence Scholarship** for zonal level exceptional academic performance in SOF Olympiads in 10th grade

Work Experience

Founding Engineer (PPO - AI Engineer Intern) Genrise.ai

(Dec'25-Ongoing)

- Built a multi-tenant **AI Visibility platform** (FastAPI, React, PostgreSQL) measuring how often brands get recommended across **7 AI shopping assistants** (Rufus, Sparky, Gemini, ChatGPT, Perplexity, AI Overviews), running daily scans for **25+ brands**.
- Turned a ranking model into actionable advice: fine-tuned a **ModernBERT cross-encoder** for search relevance (**NDCG@10 0.98** vs 0.925) feeding a product-page edit-prioritization engine; an LLM classifier ~tripled the query set, surfacing ~2,700 gap keywords.
- Bypassed Walmart **PerimeterX** via OkHttp4/Android-13 TLS fingerprinting and built a self-healing **Rufus session** for daily scans.
- Built one **LangGraph agent harness** powering **4 tool-dispatching agents**; scored **98/98** on production answer-quality QA.
- Built an **agent-memory layer** that auto-bootstraps new brands with cross-brand insights while keeping brand-specific data private.
- Built a hand-rolled **MCP server** (7 tools) for Claude ops agents and a **GPT-4o** content-quality auditor with an SME feedback loop.

Trading & Research Intern Axxela

(May'25-Jul'25)

- Actively traded **Euribor & ESTR futures** via strategic spread and fly strategies, generating a cohort-high **€2 302 profit**
- Monitored macroeconomic indicators via Bloomberg Terminal to deploy **risk-managed** European interest rate strategies
- Built an ML pipeline with 3 parameters using **LSTM + XGBoost** to predict daily **SOFR fixes**, achieving an **R2 score of 0.97**

Founding Mobile Developer SuperLiving

(Oct'24-Mar'25)

- Led solo development of a video learning app, successfully launching it on the **Google Play Store** and **Apple App Store**.
- Engineered the full-stack architecture using **Flutter, JavaScript** for the backend, and **Firebase** for the database.
- Made a production-ready application that resulted in a partnership offer in recognition of foundational contributions to the company.

Software Development Engineering Intern ClinicBharat

(Jan'24-Feb'24)

- Developed a **Queue Management System** optimizing appointment scheduling, doctor and patient management effectively
- Worked as a Developer, utilizing **MongoDB, Express, React, and Node.js (MERN)** for seamless full stack web development
- Gained hands-on experience in **full-stack development**, including **API creation, database management, and frontend**

Frontend development Intern CREW

(Feb'24-May'24)

- Developed mobile app screens and components using **Flutter**, mastering widget system and state management techniques
- Translated detailed **Figma** designs into precise Flutter implementations, honing **UI/UX** interpretation and implementation skills
- Enhanced **problem-solving** abilities via diligent frontend debugging, prioritizing code quality, maintainability, and documentation

Publications

- Universal Memory Protocol: A Cross-Platform Probabilistic AI Memory Infrastructure** - Preprint, Zenodo (2026).
- Impact of AI Usage on Critical Thinking Skills Among University Students** - *First author*; JETIR, Vol. 13(6), 2026.
- Social Media Predisposition & Academic Wellness Among Secondary School Students** - IJRAR, Vol. 13(2), 2026.

Projects

Universal Memory Protocol (UMP) | Cross-Platform AI Memory Protocol

- Authored a preprint on a decentralized, probabilistic AI memory infrastructure operating as a Model Context Protocol (MCP) server, utilizing a cascading 3-layer retrieval model and client-agnostic hardware anchoring for seamless cross-platform context sharing
- Engineered an identity resolution engine via **int8 quantization** and **Gaussian boosting**, achieving an **F1-score of 0.82**
- Eliminated context decay with a **41% retention boost** at **sub-4ms latency**, recovering **94.5%** memory across disjoint apps

genesis AI SDK | Multi-Provider AI Agent Framework

- Engineered **genesis_ai_sdk**, a unified Flutter SDK API supporting **7 AI providers** with ReAct loops and tool calling.
- Built **genesis AI app**, a cross-platform mobile application published on Google Play Store and Apple App Store, enabling dynamic creation of personalized AI agents from user prompts via **n8n, Gemma 3N** on-device inference, and A2A for inter-agent interactions
- Integrated on-device inference via **llama.cpp** and **flutter_gemma** with HF Inference Router and persistent memory across platforms.
- Achieved **160/160 pub.dev** score and ranked #1 for "Flutter AI SDK"; with comprehensive documentation and safety guardrails.

CWE Matching using LLMs | Defence Research and Development Organisation | Mentor: Prof. Subhajit Roy

- Utilized **Llama3** and **Meta LLMs** via **Ollama** to match mobile device vulnerabilities with CWE entries leveraging **RAG**
- Deployed an on-prem solution for rigorous **security analysis**, integrating **Hugging Face** for enhanced LLM support
- Achieved a **65%** accuracy in matching mobile device vulnerabilities with CWE entries, demonstrating progress in improving mobile device security. This accuracy reflects the effectiveness of the combined use of Llama3 and RAG, as well as the robustness

Termination & Non-Termination Prediction Pipeline | DSPy & Formal Verification | Mentor: Prof. Subhajit Roy

- Predicted loop termination/non-termination (invariants/recurrent sets) via an **machine learning** pipeline using **DSPy** and **MCP**.
- Integrated GCC & CBMC in an 8-split workflow to verify syntax and semantics of all predicted properties.
- Bootstrapped more than 10x data with BootstrapFewShot and CBMC feedback loops, achieving 75% prediction accuracy.

Formalizing Natural Language Requirement Specifications | Wabtec Corporation | Mentor: Prof. Subhajit Roy

- Implemented a complete multi-node **NLP** based pipeline in **LangGraph** to formalise the natural language design requirements.
- Created a model for **hallucination detection**, leveraging INCOSE sentence generation and **semantic similarity** scoring.
- Combined different hallucination detection models for robust validation, achieving higher accuracy in the final predicted DSLs

Saathi Learning App | Department of School and Mass Education, Odisha | Mentor: Prof. Anveshna Srivastava ▶

- Developed a gamified learning app using **Flutter** and **Firebase**, featuring over **1000+ questions** across **20+ categories**.
- Integrated AI-powered, multilingual text and animated explanations to clarify incorrect answers, enhancing the learning experience.
- Deployed a user study framework to analyze engagement and performance metrics for a pilot study for underprivileged children.

Mobile App Development | Government of India's Jal Jeevan Mission | Mentor: Prof. Priyanka Bagade 🔗

- Developed a **Flutter**-based mobile application for the **Government of India** to track leakage in water flow across rural locations
- Implemented features to display real-time leakage zones on a map, **complaint management system** to report and track issues
- Integrated a **Go backend** for efficient APIs with a flutter frontend, with a **PostgreSQL** database to support **data management**
- On successful Deployment the app on the JJM portal it will be impacting **19Cr+ Households** with a total of **90Cr+ people**

Q-Lingo | AI Multi Agent Language Decipherment Framework

- Architected an AI native multi-agent system on **LangGraph** to decipher historical languages and ciphers using collaborative agents.
- Implemented specialized agents (Pattern Analyzer, Hypothesis Generator, Decipherer) communicating via **A2A** protocols.
- Developed a compiled **DSPy** "Oracle" for coherence scoring and an **MCP** node for consensus, enabling iterative refinement.

India's First AI self checkout kiosk Science and Technology Council, IIT Kanpur 🔗

- Developed a **Flutter app** for India's first **AI self-checkout kiosk**, allowing customers to scan items and view cart in real-time
- Implemented integrated **payment gateways** for secure and hassle-free transactions, ensuring a smooth checkout process
- Created an **intuitive** and **user-friendly interface**, featuring real-time cart updates and easy navigation through the process

Major competitions

CommerceHub - AI Commerce Infrastructure | Entrepreneurs First Hackathon 🔗

- **Objective:** Build infrastructure connecting e-commerce catalogs to AI agents by converting store inventories into AI-accessible APIs
- **Approach:** Developed a plug-and-play system for **Shopify/WooCommerce** that instantly spins up **MCP servers** for live catalog access, and engineered a novel injection engine that pushes **MCP adapters** directly into **GitHub** repositories for custom sites, enabling seamless natural language product querying, dynamic price sorting, and automated checkout preparation via **AI agents**

Trumio-University project ecosystem challenge | (5th Position) | High Prep-Inter IIT Tech Meet 12.0 🔗

- **Objective:** Ideate and develop **AI** standalone apps for Trumio's Platform and App Store and plan **go-to-market** for these apps
- **Approach:** Developed an On-Prem solution using **Go**-based workspace controller for **Docker** containers, implemented authentication and server redirection, configured **Rocket.Chat** with **Nginx**, built AI task matching **student recommender** using their github profiles, utilized **semantic document retrieval** for documentation explainer, and made a **Selenium automation tool**

GenAI Hackathon by Overlayy | (1st Place) | OOSC'2024

- **Objective:** Automate extraction & analysis of embedded web links, generate concise questions, map relevant links, and verify results.
- **Approach:** Employed **Selenium** for robust scraping of dynamic pages, overcoming crawler limitations on complex sites. Utilized **JSON** for structured storage, **duckduckgo_search** with **Gemini API** for generating factual questions from search results, and **TFIDF Vectorisation** for relevance mapping and topic identification. Achieved 83% accuracy.

Android app for QR Code-Based Entry-Exit System for IITK | (1st Runner Up) | SnT Hackathon 2023 🔗

- **Objective:** Address the campus entry-exit problem at IIT Kanpur using advanced technology
- **Approach:** Built a QR code-based App with Firebase authentication and **Google App Script** for data entry to Google Sheets

Real Estate Website | (1st Runner Up) | RE DEV, Techkriti 🔗 🔗

- **Objective:** Develop a comprehensive real estate website with **3D image viewing** capabilities and **accurate location marking**
- **Approach:** Used **MERN** stack with **React-360-view** library for 3D view and used **MapTiler** and **Leaflet** for precise locations

Positions of Responsibility

Council Coordinator, Science and Technology Council

(Apr'24-Ongoing)

- Recruited, trained and managed a team of 10 secretaries; provided them with resources for upskilling in web and app development
- Provided technical and managerial assistance in a pan-India CTF hackathon conducted in collaboration with C3i Hub, IIT Kanpur
- Led a team for website revamp and maintenance of the SnT council and SnT clubs of Students' Gymkhana, IIT Kanpur

Student Guide, Counselling Service Team

(Apr'23-May'24)

- Guided and mentored **5 freshmen** students in acclimatizing to the Environment of the Institute.
- Coordinated with the Counselling Service and helped in the organisation of **Orientation Programme 2023**.
- Helped in the **registration** of more than **800 students**, aided by other student guides

Technical Skills

- **Languages** : Python, C, C++, Go, SQL, JavaScript, Dart, MATLAB, Shell Scripting, $\text{\LaTeX}$
- **ML / LLM / Agents** : PyTorch, TensorFlow, scikit-learn, XGBoost, Hugging Face Transformers, sentence-transformers, deep learning, LLM fine-tuning, cross-encoders, embeddings, RAG, NLP, model evaluation, model deployment, DSPy, LangGraph, LangChain, MCP (Model Context Protocol), A2A, ReAct tool-calling, prompt engineering, Anthropic Claude API, OpenAI GPT-4o, LlamaIndex
- **Backend / Tools** : FastAPI, Flask, REST APIs, microservices, PostgreSQL, MongoDB, Docker, AWS (EC2, RDS, S3), Nginx, Celery, Keycloak authentication (SSO/OAuth), CI/CD, Playwright, Selenium, TLS fingerprinting, Git, React.js, Firebase, Azure, Jira

Relevant Courses

* Online

- Generative AI, Data Structures & Algorithms, Probability Theory, Linear Algebra & Differential Equations, Non-Linear Regression, Fundamentals of Computing, Set Theory & Logic, Accounting & Finance, Android 14 Developer (Udemy)*.