KOMAL MATHUR

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LinkedIn GitHub Google Scholar Website

EDUCATION

B.Tech Computer Science Engineering, Manipal Institute of Technology 2022 - 2026
CGPA: 9.87/10
Rank: 1/2684, **1st in CSE Department**

High School (PCM), Lotus Valley International School
12th CBSE PCM + cs: **98.6% (School Topper)** 2008 - 2022

EXPERIENCE

AI Products @ STAGE February - June 2026

- Built and managed **Stage Saathi**, an AI outbound voice-calling pipeline handling a volume of 130k calls in regional Indian languages, cutting user-outreach cost to 25% of the incumbent third-party call centre.
- Shipped **Character Bot** suite: multiplayer games (Saanp Seedhi, Ludo, Bluff), AI selfies, and real-time voice calls with show characters — **doubling chat depth within a week** of launch.
- Conceptualized and led event instrumentation for the **1-User-1-Agent** system, unifying multi-channel outreach and deeplink-based campaign attribution under a single per-user agent.
- Single-handedly migrated the app codebase from **React to Flutter**, owning architecture, refactor, and release.

Software Developer Intern @ Bank of New York (BNY) May - July 2025

- Built an **angular App Builder**, reducing mobile app dev time by 60% via streamlined metadata and asset management.
- Built and shipped a VS Code Copilot extension leveraging internal knowledge bases to auto-generate context-aware UI code, ensuring compliance and reducing developer overhead.

Counter-terrorism Research @ Meta, Mythos Labs August - December 2024

- Fine-tuned Llama 3.2 for automated **de-radicalization monitoring**, with real-time dashboards ranking risk scores
- Scoped, prototyped, and tested ML features with international stakeholders (Meta, OSCE), learning full-cycle ownership of applied AI systems
- Participated in an in-person event on the use of AI in PCVE (Preventing and Countering Violent Extremism) sponsored by Meta and the OSCE (Organization for Security Cooperation in Europe) in Tashkent, Uzbekistan.

GenAI Intern @ Info Edge, Naukri.com May - July 2024

- Developed an **automated Question Generation pipeline** integrated with MySQL, reducing manual intervention by 95% and cutting operational costs by 30%.
- Streamlined prompt engineering processes, achieving a 25% increase in model efficiency while maintaining high scalability.

Samsung PRISM Intern @ Samsung R&D India April 2024 - Jan 2025

- Decreased LLM fine-tuning needs by 60% via tokenization and **RAG for Smart Home Events**
- Developed a dashboard to visualize Smart Home Event patterns and surface RAG retrieval quality, enabling rapid iteration on prompt and tokenization strategies.

Technical Head + AI Subsystem Head @ Research Society Manipal October 2024

- Leading a team of over 200 students pursuing undergraduate research, focusing on Transformers, Bias Mitigation in LLMs, Mechanistic Interpretability

SKILLS

Programming Languages	C/C++, Python, Java, Typescript, Javascript, HTML CSS, Swift
Frameworks & Tools	SQL, Angular, Django, MongoDB, RESTful APIs, NodeJS, Automation, Git
Relevant Coursework	Data Structures, OOPs, Data Analysis, Database Systems, System Design, Operating Systems, Computer Networks, Software Engineering, Software Testing

PUBLICATIONS

EMNLP 2023 Bangla Sentiment Analysis using Weighted and Majority Voted Fine-Tuned Transformers. Seth, P., Goel, R., **Mathur, K.**, Vemulapalli, S. (2023) ACL Anthology

IEEE Access REACTS: Robust Ensemble Approach with Comprehensive Temporal and Spectral Features for TTS Speech Detection. **Mathur, K.**, Shah, A.G., Chowdhury, P., Balachandra, M., Pang, S. IEEE Xplore

AWARDS & ACHIEVEMENTS

- Achieved **1st place globally** among 699 teams from 102 countries in the **CyberAI Cup 2024**, organized by the 15th International Cyber Security Data-Mining Society (ICSDS) in **Auckland, New Zealand**.
- Awarded the Director's **Diamond Jubilee Award** for being ranked 1/2684 students in the 1st, 2nd & 3rd year
- Received **Achiever's Scholarship** worth Rs.1,01,800 for academic excellence in the 1st, 2nd & 3rd year

PROJECTS

Niffler - Personal knowledge graph for X — one-click tweet saving, AI-powered organization, and 3D graph exploration; open-source and self-hostable. Built with Node.js, SQLite, a Chrome Extension, and Claude. goniffler.com

AutoInterpret - AI agent that runs neural architecture search to discover more interpretable network designs, with automated experiment loops, interpretability scoring, causal ablation, and circuit analysis. GitHub

Hey Taxii App - Ride-share web app using SQL Alchemy, Python, HTML, and the Google Maps API GitHub

Twitter Clone - Built using React.js, MongoDB, Node.js, Express, Tailwind and JWT for authentication GitHub