

Kushal Agarwal

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Education

Year	Degree/Certificate	Institute	CPI/%
2021 - 2025	B.Tech	Indian Institute of Technology, Jodhpur	7.15/10
2021	ISC(XII)	Bishop Johnson School, Prayagraj	84.5%
2019	ICSE(X)	Bishop Johnson School, Prayagraj	87.8%

Experience

- **Founder- Technical Product Manager, Vanii.ai** (June'24 - November'24)
 - Developing an AI-powered voice-based language learning ecosystem with an ultra-low latency voice agent (500ms response time) using an STT-LLM-TTS pipeline, WebSocket/WebRTC infrastructure, and Redis for context caching.
 - Built a user analytics data pipeline that tracks interactions, personalizes AI, and updates user details, leveraging **GA4**, **NeonDB (PostgreSQL)**, and **MongoDB** for data-driven insights.
 - Spearheaded a team of 3 engineers, employing Kanban methodology to efficiently manage project timelines and rapidly iterate on MVPs.
 - Hosted on **AWS EC2** with **CloudWatch** for monitoring and used Docker for containerized deployment and scalability.
- **Product Management Intern, Human Insight Ventures** (June'23- July'24)(Part-Time)
 - Developed Kitaabnama, a novel product to improve children's reading engagement. Created **low and high-fidelity wireframes** with the design team to optimise the user experience and ensure successful deployment of MVP in **less than 15 days**.
 - Created data-driven insights from an end-to-end analytics pipeline (Google Tag Manager, Mixpanel, MongoDB) and architectural diagrams to guide product strategy, scalability, and user experience enhancements.
 - Launched a Community Reading feature, boosting reading engagement by 300% and made reading a social experience.

Key Projects

- **Speech Emotion Recognition on RAVDESS Dataset** | Python, Librosa, Tensorflow | **Github** (July'24 - August'24)
 - Developed and trained a CNN-Linear Classifier, achieving a 76.60% accuracy on the RAVDESS Dataset, outperforming Random Forest by 10%.
 - Conducted Exploratory Data Analysis to address class imbalances, skewness, and implemented data augmentation techniques to improve model performance.
 - Preprocessed audio files from the RAVDESS dataset, containing 8 emotions, by converting them into Mel Spectrograms using librosa library.
- **Indoor Navigation with Deep Learning** | Python, Pytorch, OpenAI | **Github** (Feb'24 - April'24)
 - Developed deep learning pipeline for indoor navigation using VQA, segmentation, and depth estimation models to assist visually impaired users.
 - Conducted data analysis and model evaluation on the DAQUAR dataset, optimizing for obstacle detection and spatial understanding.
 - Implemented NLP solution with LLMs and Text-to-Speech for dynamic user interactions and audio instructions.
- **Product Teardown | Teardown Decks** (June'23)
 - Top 5 Finalist in VAMA's Product Teardown competition; conducted comprehensive user research and competitive analysis to improve **UI/UX**, **user retention**, and **Actionable metrics**.
 - Led product analysis initiatives focused on **prioritising user requirements** and streamlining UI/UX, resulting in optimized solutions that **addressed user pain points** and enhanced engagement metrics.

Technical Skills

- **Training @Deloitte:** SQL, Python, Data Warehousing, Angular, AWS Solution Architecture
- **Programming Languages:** HTML, CSS, Python, JavaScript, JSON, **SQL**.
- **Software and Libraries:** Git, VS Code, **MongoDB**, **FIGMA**, **GA4**, **Google Tag Manager**, **Miro**, **MixPanel**, **PowerBI**, **Slack**, **Trello**, **MS Excel**, numpy, pandas, tensorflow, matplotlib, sklearn, seaborn, nltk, streamlit, node.js.

Relevant Courses

AWS Solution Architect Udemy Introduction to Programming Introduction to Machine Learning	Introduction to Data Science Linear Algebra and Differential Equations Probability and Statistics
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Positions of Responsibility

- **Festival Chief, Prometeo'24 - TechFest IITJ** (Oct'23-March'23)
 - Led a team of 250, managing a budget of INR 4.5M to successfully execute 40+ events.