Titiksha Yadav

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Education

- **Madhav Institute of Technology and Science** Gwalior, India
  Bachelor of Technology in Electronics Engineering *August 2023 – June 2027*

Research Interests

- Human-Computer Interaction
- Affective Computing
- Adaptive & Explainable Interfaces
- Human-Centered AI
- Multimodal Machine Learning
- Applied Artificial Intelligence
- Computer Vision
- UX Research

Research Experience

- **Undergraduate Researcher** MITS Gwalior
  (Sentiment Analysis & Natural Language Processing for Mental Health) *May 2026 – August 2026*
  - Researched sentiment analysis for mental health assessment, applying NLP techniques to identify emotional patterns and early risk indicators from textual data.
  - Performed exploratory data analysis, model development, and evaluation to improve the accuracy and reliability of mental health assessment models.
  - Reviewed current literature on explainable and responsible AI, and contributed to the design of machine learning solutions tailored to healthcare applications.

Publications

- "Comparative Analysis of Transformer Models for Pharmacovigilance — Conducted a systematic comparative analysis of transformer-based models for medication sentiment classification and adverse drug reaction (ADR) detection, analyzing label granularity, class imbalance, evaluation metrics, and safety–recall trade-offs." – (Submitted to conference)
- "Evaluation of Explainable Deep Learning Models for Facial Emotion Recognition and Early Mental Health Risk Assessment using a novel dataset" – (Submitted to Journal)
- "Lingofy - Learning Languages Through Music Using Human-Centered AI" – (Manuscript in Preparation)

Projects

- **MoodOS - Emotion-Adaptive AI Desktop Interface** *(React, TypeScript, Three.js, MediaPipe, Framer Motion)*
  - Developed an emotion-aware desktop interface that dynamically adapts UI elements using real-time facial landmark analysis with MediaPipe.
  - Designed adaptive interaction workflows grounded in Human-Computer Interaction principles to enhance personalization and accessibility.
- **SafeRoute AI – Intelligent Personal Safety Platform** *(React, TypeScript, Supabase, OpenAI API) – Work in Progress*
  - Developing an AI-powered personal safety platform for intelligent route planning and real-time emergency response.
  - Implementing community-driven hazard reporting and accessibility-aware navigation to support safer route decisions.
  - Building a reusable frontend architecture with an integrated SOS feature and AI-assisted safety recommendations.
- **Lingofy - Language Learning Through Music – Web Application** *(React, Spotify API, Figma) – Work in Progress*
  - Designing a music-based language learning platform grounded in UX research methodology and iterative usability evaluation.
  - Integrating gamification and contextual vocabulary learning to strengthen learner motivation and engagement.
  - Developing adaptive, personalized learning pathways informed by user testing and feedback cycles.
- **Vivere – An AI-powered mental health companion** *React, TypeScript, Supabase, OpenAI GPT-4.1, Whisper, ElevenLabs)*
  - Developed an AI-powered mental health companion integrating multimodal conversational AI, voice interaction, journaling, mood tracking, and therapeutic interventions to support personalized emotional well-being.
  - Integrated OpenAI GPT-4.1, Whisper, Realtime API, and ElevenLabs within a scalable React–Supabase architecture to enable context-aware conversational experiences and real-time voice communication.
  - Applied Human–Computer Interaction principles, accessibility guidelines, and trauma-informed design to build adaptive therapeutic workflows prioritizing usability, privacy, and emotional safety.
- **Helixx – Intelligent Healthcare Coordination Platform** *SwiftUI, Node.js, MongoDB, Firebase, Google Maps API)*
  - Built a healthcare coordination platform that intelligently manages patient allocation using hospital proximity, emergency severity, and real-time bed availability to improve healthcare accessibility.
  - Integrated secure electronic health records, appointment management, ambulance routing, and live notifications through RESTful APIs, Firebase Cloud Messaging, Twilio, and Google Maps services.
  - Applied Human-Computer Interaction principles to design an accessible mobile experience that simplifies clinical workflows and enhances patient engagement in emergency healthcare environments.
- **Sentinel AI – AI Visibility & Answer Engine Optimization** *(React, TypeScript, FastAPI, Supabase, PostgreSQL, OpenAI, Gemini)*
  - Developed a full-stack AI visibility platform that monitors brand representation across multiple large language models (ChatGPT, Claude, Gemini, and Perplexity) through automated prompt analysis, citation auditing, and sentiment evaluation.
  - Engineered a scalable serverless architecture using React, FastAPI, Supabase, and PostgreSQL with Row-Level Security, integrating multi-provider LLM orchestration, real-time analytics, and AI-powered optimization workflows.
  - Designed algorithms for visibility scoring, competitor benchmarking, citation verification, and Answer Engine Optimization (AEO), enabling organizations to measure and improve brand presence in AI-generated responses.

Technical Skills

- **Programming:** Python, JavaScript, TypeScript, Java, SQL
- **Frameworks & Libraries:** React, TensorFlow, OpenCV, MediaPipe, Node.js, Supabase
- **Research Methods:** Human-Computer Interaction, UX Research, Experimental Design, Affective Computing, Image Processing, Music Cognition
- **Design:** Figma, Wireframing, Prototyping, Usability Testing
- **Tools:** Git, GitHub, Vercel, Google Colab, VS Code

Achievements

- Invited as a Guest Speaker at Hatch to deliver a session on UX/UI Design, sharing practical insights on user-centered design principles with an audience of aspiring designers and technologists.
- Recognized on two separate occasions as a LinkedIn Top Voice, acknowledging consistent, high-quality contributions to discussions within the design and technology community.
- Advanced to the finalist round in six hackathons, including multiple national-level competitions, by developing and presenting innovative, user-focused technical solutions under time-constrained settings.

Position of Responsibility

- **Chief Marketing Officer | MakeMyMock** ***March 2026 – Present***
  Lead product strategy, user research, and cross-functional collaboration for an AI-powered EdTech startup.
- **Graphic Designer | Google Developer Group (GDG)** ***August 2023 – September 2025***
  Collaborated with the graphics team to design visual assets for community events and technical initiatives.
- **Graphics Team Member | GeeksforGeeks Student Chapter (GFG)** ***January 2024 – April 2026***
  Designed UI assets and visual graphics for the official GeeksforGeeks Student Chapter website and campus events.