

# CHAITANYA WANJARI

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## Education

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**Indian Institute of Information Technology, Gwalior**

Nov. 2022 – May 2027 (Expected)

*Integrated B.Tech + M.Tech in Information Technology — GPA: 8.40/10*

*Madhya Pradesh, India*

## Experience

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**Web Developer**

Jun. 2023

*Aurora Web Team — aurorafest.in*

*Gwalior, India*

- Built and deployed IIT Gwalior’s fest website, resulting in a **40%** increase in user engagement.
- Implemented modern frontend technologies to ensure smooth performance and scalability.

## Projects

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**Maatri** | *RAG Pipeline, FastAPI, Bi-encoder, Cross-encoder*

Aug 2025

- **QA Pipeline:** Developed a bilingual healthcare QA system using **retrieval, cross-encoder re-ranking,** and **abstractive summarization** for accurate responses.
- **Dataset:** Curated **3.5K+ bilingual QA pairs** along with WHO and Wikipedia passages tailored to the Indian healthcare context.
- **Deployment:** Built and deployed a **Streamlit + FastAPI** application enabling real-time text and voice-based queries.

**Smart Ride Decision Engine** | *React, Leaflet, OSRM, FastAPI*

Dec 2025

- **Decision Engine:** Designed a multi-objective ride recommendation system optimizing **fare, detour time, and cancellation risk** for gig drivers.
- **Explainable AI:** Implemented **rule-based explanations** with visual impact analysis to justify ride rankings (fare, detour, risk factors).
- **Routing & Maps:** Integrated **OSRM routing** with **Leaflet** for real-time visualization of driver location, routes, and ride selection.
- **System Design:** Developed a modular **FastAPI backend** and **React dashboard** with demo-mode scenarios for reproducible analysis.

**Gender Bias Detection and Mitigation** | *NLP, Bias Analysis, Data Augmentation*

March 2025

- **Bias Identification:** Built a pipeline to detect and quantify gender bias using NLP classification models and statistical analysis.
- **Mitigation Strategies:** Applied data augmentation and debiasing techniques to reduce bias while maintaining model performance.
- **Evaluation Framework:** Designed metrics and visualizations to compare bias levels before and after mitigation.
- **Open Source:** Released complete implementation with documentation for reproducible bias analysis and research use.

## Technical Skills

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**Languages:** Java, C++, Python, JavaScript, TypeScript, SQL

**Frontend/Backend:** React.js, Next.js, Redux Toolkit, Node.js, Express.js, REST APIs

**Styling & UI:** Tailwind CSS, Framer Motion

**ML / AI:** scikit-learn, spaCy, FAISS, BERT, mT5, Cross/bi-Encoder Models, MIRNet

**Databases:** MongoDB, SQL

**Tools & Frameworks:** Git, Docker, FastAPI, Streamlit, Jupyter Notebook, Vite, Leaflet, OSRM

**Coursework:** Data Structures & Algorithms, Machine Learning, Probability & Statistics, Linear Algebra

## Publications

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**EquiSumm 2025**

*Co-authored EquiSumm, a gender bias-aware tweet summarization framework, accepted at the **AI4SG Workshop, PReMI Conference 2025, IIT Delhi.***

## Achievements & Programs

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**Amazon Machine Learning Challenge 2025**

*Top 6% — built a **multimodal ML pipeline** reducing **SMAPE** to **45%**.*