Atharv Khare

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Education

- **Indian Institute of Technology Madras** *(expected) 2027*
  Bachelor of Science : Data Science CGPA: 9.01

Skills

Programming Languages: Python, Java, JavaScript, SQL, Bash Shell

Machine Learning / Deep Learning: PyTorch, scikit-learn, NumPy, Pandas, Matplotlib

Frameworks / Tools: Flask, FastAPI, Vue.js, Git, CI/CD

Databases & Cloud: PostgreSQL, SqlAlchemy(ORM), Redis, Firebase, GCP

Relevant Coursework: Business Data Management, Linear Algebra, Probability & Statistics

Experience

- **WebOps Team Member: Kanha House, IIT Madras** *Chennai, December 2025*
  - Designed a scalable full-stack web application using React, serving the student body.
  - Boosted system performance by 40% by architecting a caching layer with Redis.
  - Orchestrated background processing for email notifications and data aggregation using Celery task queues, decoupling resource-intensive tasks from the main request thread.

- **Business Analytics Consultant: Melan FF (QSR)** *Bhopal, September 2025*
  - Delivered a full-stack data solution, including a Python pipeline for 30k+ orders and an operational dashboard, which automated feature engineering and metric generation to uncover critical profitability drivers.
  - Developed Bayesian and SARIMAX models for 90-day SKU-level demand forecasting, providing the quantitative backbone for an optimized inventory control policy.
  - Drove product portfolio and Zomato re-pricing decisions using ABC-XYZ analysis and automated competitive intelligence.

Achievements

- **Certification:** Datacamp Data Science Associate, HackerRank Intermediate Python & SQL
- **Winner:** Anukriti, IIT Madras
- **Finalist:** Hack-eclipse, Fetch AI Hackathons IIT Madras

Personal Projects

- **Visual Machine Learning Orchestration Platform** *2025*
  https://github.com/1mystic/domino_ml
  - Engineered a visual ML pipeline builder that automates 100% of boilerplate generation using Flask.
  - Full-Cycle ML model forking, version control, and Markdown+LaTeX editing to streamline the end-to-end student-instructor workflow.
  - Created a modular library of 50+ reusable components and 5 pre-configured templates, significantly reducing user onboarding time.

- **TypeState: Real-Time Cognitive Load Detection Engine (Bi-LSTM)** *2025*
  github.com/1mystic/typestate-data
  - Engineered a privacy-preserving, closed-loop inference system (React/FastAPI) that analyzes keystroke micro-rhythms in 20-key sliding windows with **<150ms latency**.
  - Developed a Bi-Directional LSTM model achieving **79.4% accuracy** and a **0.62 Stress-Class F1-Score**, significantly outperforming Random Forest (F1=0.49) baselines in detecting minority stress signals.
  - Curated a custom dataset of **1,745 valid sequence windows** ($N = 32$) to identify the "Variance Paradox," proving that acute stress correlates with reduced rhythmic variability.

- **Clearview: ML-Verified Pollution Reporting Platform** *2025*
  https://github.com/1mystic/clearview
  - Developed crowdsourced platform integrating ML verification of pollution reports with interactive geospatial mapping (React, Leaflet API).
  - Trained TensorFlow classification model achieving **87% accuracy** in automated pollution report validation.
  - Integrated biodiversity hotspot mapping and environmental impact metrics.

Positions of Responsibility

- **Event Core :** Managed operations for 500+ participant event at Paradox, IIT Madras