

Atharv Khare

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EDUCATION

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

SKILLS

Programming & Frameworks: Python (Expert), JavaScript, FastAPI, Flask, React.js, Vue.js, SQL, Bash Shell
AI & LLM Orchestration: LangGraph, Agentic Systems, RAG Pipelines, Prompt Engineering, LangChain, scikit-learn
Systems & DevOps: Docker (Familiarity), Redis (Caching), Celery (Task Queues), CI/CD, GCP, Linux
Databases & Tools: PostgreSQL, SQLAlchemy (ORM), Firebase, Git, NumPy, Pandas, Matplotlib
Relevant Coursework: Machine Learning Techniques, Probability & Statistics, Linear Algebra, Business Data Management

EXPERIENCE

- **Learning Assistant (LA) : Tools in Data Science, IIT Madras** *2026 – Present*
 - Selected by the TDS course team to support 1,000+ students; built **TDS-Collab** : a community platform with assignment tracking, markdown support, upvote-ranked submissions, and a leaderboard to surface high-quality solutions.
 - Authored **TDS-Manual**, a searchable archive consolidating course content across dev tools, LLMs, data sourcing, deployment, and visualization after the Jan 2026 curriculum shift to self-directed learning; recognised by the TDS team.
- **Data Analyst: Melan FF (QSR)** *Bhopal, September 2025*
 - Conducted ABC-XYZ inventory segmentation, affinity-based combo analysis, and menu engineering on **30k+ orders**, surfacing actionable pricing and portfolio decisions for the operations team.
 - Built SARIMAX + Bayesian demand forecasting models for 90-day SKU-level projections and delivered an automated operational dashboard, replacing manual reporting workflows.

ACHIEVEMENTS

- **Research:** TerraHeal : Post-wildfire vegetation recovery anomaly detection (Sentinel-2 + Isolation Forest); TypeState preprint published on ResearchGate.
- **Hackathons:** Winner: Anthropic’s CBC Spring Challenge, Inter House Hackathon, Anukriti : IIT Madras | Finalist: Hack-eclipse, Fetch AI Hackathon
- **Certifications:** Datacamp Data Science Associate | HackerRank Python & SQL (Intermediate)

PERSONAL PROJECTS

- **GitSyntropy: Multi-Agent Team Intelligence Platform** [🔗 GitHub ↗](#) [🔗 Live ↗](#) *2025*
 - Engineered a **LangGraph multi-agent system** (Claude API) that ingests GitHub telemetry to simulate hire impact and score team compatibility across 8 resilience dimensions.
 - Shipped a **FastAPI + PostgreSQL** backend with real-time SSE streaming to an **Astro.js/TypeScript** frontend, supporting concurrent agent orchestration in production.
 - Applied **Monte Carlo simulations** to quantify hire-fit probability distributions, transforming raw Git signals into structured HR decision artifacts.
- **Axiom Canvas: LLM-Powered Math Visualization Engine** [🔗 Live ↗](#) *2025*
 - Architected an LLM prompt pipeline translating natural-language queries into **Desmos API** graph constructions with **<200ms** latency on a serverless backend.
 - Implemented a **lightweight RAG system** using NumPy dot-product similarity over PDF corpora, eliminating FAISS for a serverless-compatible footprint.
 - Shipped an AI “Learning Mode” converting topic prompts into chapterized lessons with narration, flashcards, and live visualizations : demonstrating **product ownership**.
- **TypeState: Real-Time Cognitive Load Engine (Bi-LSTM)** [🔗 Preprint](#) [🔗 GitHub ↗](#) *2025*
 - Built a **closed-loop React + FastAPI** system classifying cognitive stress from keystroke micro-rhythms in sliding windows with **<150ms end-to-end latency**.
 - **Bi-LSTM** model achieved **79.4% accuracy** and **Stress F1=0.62**, outperforming Random Forest (F1=0.49) on a self-curated dataset of 1,745 labeled sequences.
 - Optimized high-frequency ingestion pipeline to decouple UI rendering from inference, preventing frontend lag : applied **systems thinking** across the full stack.