

# Avra Paul

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## EDUCATION

Indian Institute of Technology Madras — B.S. in Data Science & Applications

University of Kalyani — B.Tech in Information Technology

Expected Graduation: 2027 | Specialization: Data Science, Statistics, Computer Science

## TECHNICAL SKILLS

Languages: Python, SQL, HTML/CSS, JavaScript

Tools & Libraries: Pandas, NumPy, scikit-learn, Flask, Playwright (Async Browser Automation), Git

Databases: SQLite, MySQL

Other: Web Scraping, Async Data Pipelines, REST APIs, Data Visualization

## PROJECTS

PARAKH Education Data Engineering & Analysis Project | Python, Playwright, Pandas

- Built an end-to-end data pipeline to collect and analyze 53,000+ competency records from publicly available PARAKH (NCERT) dashboards
- Automated extraction from dynamic Angular pages and interactive visualizations using async Playwright workflows
- Cleaned, validated, and aggregated data across 28 States/UTs and 600+ districts
- Performed stage- and subject-level analysis to identify learning-stage performance drop-offs

Virtual Teaching Assistant — LLM-Powered Forum Automation | Python, Flask, OpenAI API

- Built a POST API that answers student queries using scraped IITM Discourse forum data
- Handled data scraping, preprocessing, indexing, and response generation
- Supported base64 image input and multimodal queries

Paul Tailors Business Performance Analysis | Pandas, Matplotlib

- Analyzed a real tailoring business to evaluate cost, profit, and efficiency trends
- Delivered a 20-page report with visual insights and actionable recommendations

Data Analyst Agent (Alvyn v2) | Python, Flask, LLMs

- Built and deployed a data analyst agent that dynamically scrapes, cleans, analyzes, and visualizes data based on user queries
- Exposes a REST API returning structured insights, JSON outputs, and base64-encoded plots within strict time limits
- Designed modular pipelines for data sourcing, preprocessing, analysis, and visualization
- Deployed on Vercel: <https://alvyn-v2.vercel.app>

## EXPERIENCE

Freelance Data Analyst (Independent)

- Helped small businesses digitize, clean, and analyze operational data
- Provided data-driven insights for pricing and inventory decisions

## STRENGTHS

- Strong data engineering fundamentals with real-world scraping experience
- Clear communicator with ability to translate data into insights
- Comfortable working in fast-paced, problem-driven environments