

AYUSH CHAVNE

Data Scientist | Full Stack Developer | Quantitative Research Consultant

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[GitHub](#) | [Linkedin](#)

EDUCATION

Indian Institute of Technology(IIT), Madras

Diploma in Data Science and Programming

Sept 2021 - Apr 2025

Government College of Engineering, Nagpur

B.Tech in Electronics and Telecommunication

Aug 2020 - Jul 2024

Services Preparatory Institute(SPI), Aurangabad

HSC

Jun 2018 - Mar 2020

EXPERIENCE

Department of Data Science & AI, IIT Madras | Project Associate Chennai | Jan 2025 - Present

- Working on forecasting demand for quick e-commerce optimisation and inventory optimisation.
- Working on Limit Order Book generation and prediction of L1 and L2 level book using the quotes data.
- Working on developing Market making algorithms using the L1 and L2 Orderbook.
- Trained LSTM model using tensorflow for time-series forecasting of the L1 and L2 orderbook.

Sudha Gopalakrishnan Brain Centre, IIT Madras | Full Stack Developer Chennai | Jul - Dec 2024

- Worked on the flagship DHARANI project which was later published in the Journal of Comparative Neurology.
- Led the migration of the Brain Atlas Editor from GeoJSON to TopoJSON using OpenLayers, improving data efficiency and performance.
- Developed an algorithm to display both tissue-level and structural-level views of different brain regions, with real-time performance using asynchronous processing.
- Worked on building the 3D Brain Viewer with VTK.js to visualize complex brain structures in an interactive, immersive environment.
- Built a web crawler for knowledge mining from internal data, creating a knowledge graph with Neo4j, and implementing a Graph-based RAG chatbot to answer queries based on the internal data.
- Containerised Mistral 70B using llamacpp and docker on DGX server and worked on finetuning on neuroscience data corpus with the aim of creating a virtual neuroanatomist.

World Quant | Quantitative Research Consultant

Remote | Apr 2024 - Present

- Research various alphas and refine them for use in production.
- Use of fast expression language for programming, ACE(Alpha Creation Engine) for robust alpha development.
- Learning to read and survey research papers for drawing out alpha ideas and implementing them in BRAIN platform.
- Fine-tuned FinBERT for alpha idea identification from research papers, helped saving time from manual to automated alpha idea extraction.

Microsoft | Future Ready Talent AI Virtual internship

Remote | Jun 2024

- Learned and experienced hands-on Azure cloud technology, GitHub and development and deployment of web apps on Azure with GitHub.
- Gained Industry insights by industry leaders and experts on use cases and implementation of cloud services in businesses.
- Built and deployed a project(web app) using GitHub, Azure App services with an embedded AI Chat Bot.

SKILLS

Programming Languages: Python, SQL, Java Script, Cypher, Bash

Libraries/Frameworks: Numpy, Pandas, TensorFlow, scikit-learn, PyTorch, Hugging Face, transformers, Spacy, Scispacy, Selenium, BeautifulSoup, React, Angular, Node

Tools / Platforms: Git, Celery, Azure, Docker, Linux, Jupyter, Power BI, Tableau

Databases:

Redis, MySQL, SQLite, PostgreSQL, Neo4j, MongoDB

PROJECTS / OPEN-SOURCE

DHARANI (SGBC-IIT, Madras) | [Link](#)

Angular, MySQL, Django, Docker, Openlayers, VTK.js

- Reduced the latency and improved the user experience by integrating turf.js with the frontend and implemented efficient algorithms for 2D Brain visualisations.
- Synchronised different angular components together using BehaviorSubject and subscription methods, resulted in a reactive state management system.
- Improved the the 3D visualisation of the brain on the quad-viewer by integrating VTK.js on the frontend and connected it with the 2D viewer.
- Developed, trained, and deployed an AI Chat bot using Graph RAG and neo4j by creating a knowledge graph of the internal data of the brainportal.

Virtual Neuroanatomist | [Link](#)

Docker, Doccano, Spacy, OpenAI, Neo4j, GCP, Flask, LM Studio, Llama.cpp, Hugging Face, Angular

- Created a data collection (web scraping and crawling)and pre-processing pipeline for creating a knowledge graph for the knowledge base.
- Performed EDA on the pubmed dataset and found out crucial insights in the data which were helpful in deciding next course of action.
- Use of Doccano, Spacy, and GCP for Named Entity Recognition from the input data with reference from the NIF(Neuroscience Information Framework) ontology, and topic modelling.
- Hosted Mistral70B model on local DGX server using docker and llama.cpp and fine-tuned it on internal database.

Equity News Analyser | [Link](#)

Flask, SQLite, Azure, GitHub, Tableau

- A web app for analysing the effect of news on stocks of NSE(National Stock Exchange) NIFTY-50 Index for Indian Intraday Trading market.
- Using the google news api, it collects the current news and classifies it depending on the sentiment of the news into long and short categories.
- Contains a Simulation Trading environment for testing strategy with current market data and backdated price-volume movements for analysis. Portfolio for confirming profits and cutting losses. Visual Charts for quick overview of the holdings and diversification of portfolio. Complete market overview using tableau, heatmap and bubble chart.

CERTIFICATIONS

- Google Advanced Data Analytics Professional - **Google & Coursera**
- DP-100 (Azure Data Scientist Associate) - **Microsoft**
- AZ-305 (Azure Solutions Architect Expert) - **Microsoft**
- AZ-104 (Azure Administrator Associate) - **Microsoft**
- Microsoft Future Ready Talent Internship - **Microsoft**
- AI-900 (Azure AI Fundamentals) - **Microsoft**
- SC-900 (Security, Compliance, and Identity Fundamentals) - **Microsoft**

HONORS & AWARDS

- Bronze Medalist in National Science Olympaid (Class 10th) 2017-2018 (SOF)
- Course Commander at Services Preparatory Institute(SPI), Aurangabad from Feb 2019 to Mar 2019
- Cadet IC at Services Preparatory Institute(SPI), Aurangabad from Oct 2019 to Nov 2019