Aditya Ranjan

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EDUCATION

King's College London — London, UK
Bachelor of Science with Honours in Artificial Intelligence | **1st Class Predicted** — Sep 2024 - Jun 2027
Relevant Modules: Mathematics and Statistics for AI: **86%**, Programming Practice and Applications: **92%** (In progress)

Glyn School — Epsom, UK
A-levels: Maths (**A***), Computer Science (**A***), Further Maths (**A**), Physics (**A**) — Sep 2022 - Jun 2024
GCSEs: **10 Grade 9s** — Sep 2017 - Jun 2022

EXPERIENCE

Nomura — London, UK
Spring Insight — Mar 2025 - Apr 2025
- Presented **trade recommendations** by analysing commodity price changes, SWF allocations and macroeconomic data.
- Outperformed peers by presenting an M&A Case Study, analysing strategic alignment and challenges under CMA oversight.

JP Morgan — Remote
Software Engineering Job Simulation — Sep 2024 - Oct 2024
- Set up a local dev environment to correctly process and display a live data feed of stock prices, enabling effective comparisons of under/over-valued stocks for traders.
- Implemented Perspective to view data with interactive real-time charts, and integrated critical events & price threshold alerts.

GSK — London, UK
Data Work Experience — Apr 2023 - May 2023
- Learnt, sorted, and **filtered 5000+ patients'** data via Microsoft Excel to improve data accuracy and consistency.
- Produced informed predictions to select patients for clinical trials based on key characteristics for each hospital.
- Automated routine data cleansing tasks through python scripts, **improving efficiency by 25%.**

PROJECTS

Equity Momentum Screener | *Python, NumPy, Pandas, SciPy, Excel*
- Engineered an investing strategy to select top 50 stocks with the highest price momentum, calculating up to a one-year price return to differentiate between high and low-quality momentum stocks.
- Created a **scalable portfolio allocation tool** to calculate position sizes for 500+ stocks using an equal-weighting model.

ROS-based UV-C Disinfecting Robot | *Python, Docker, ROS Noetic, SMACH, YOLO*
- Developed a vacuum cleaner robot with a finite state machine for cleaning, charging and obstacle avoidance via YOLO.
- Built an optimised path planner using A* and BFS for efficient navigation and coverage, reducing **cleaning time by 40%.**

Accessify | *JavaScript, ReactJS, PostgreSQL, NeonDB, FastAPI, Tailwind CSS, TypeScript*
- Led the development of an AI powered browser extension application to enhance accessibility for **200+** neurodivergent users.
- Scraped website data to adjust fonts, add spacings and **reduce up-to 85% flashing visuals** in videos to improve readability.
- Built a secure login system with AuthJS to track user progress, generate tailored exercises, and deliver real-time feedback.

AI web scraper | *Python, Selenium, BeautifulSoup, Ollama*
- Designed a web scraper to dynamically scrape user-provided web content URLs, extracting relevant DOM elements.
- Incorporated llama3.1 to develop an AI prompt system which returned information and insights from the scraped websites.

Bat Rush (NEA) | *Python, Pygame, NEAT, SQL*
- Programmed a 2D arcade-based video game using Python and Pygame with OOP principles, following the full agile lifecycle.
- Implemented a player vs AI, game mode, developing the AI framework via NEAT, a **neuroevolutionary-based** approach.

EXTRA ACTIVITIES

- **Hackathons**: 2nd in KCL CultureHack'25, 3rd in UCL Hack London'25, 5th in ICHack'25, finalist at KCL HackTheLion'25.
- Placed in the **top 5%** globally in the IMC Prosperity 3 trading challenge.
- Achieved a **top 15** placement in the Citadel Europe Terminal 2025.
- Led a 20-member team to win **1st place** in KCL Puzzled 2024, outperforming 250+ participants.

SKILLS

Programming languages: Python, Java, JavaScript, HTML, CSS, SQL (Postgres), C
Languages: English, Hindi, French
Technologies and Libraries: Git, MySQL, Linux, ReactJS, Django, Pandas, NumPy
Certifications: PCEP - Certified Entry Level Programmer in Python, CS50 – Introduction to Computer Science
Engagements: Computing Ambassador, Private tutor, Presenter, SEO London Candidate, KCL Tech, King's Business Club
Interests and Hobbies: Grade 6 Guitarist, Swimming, Badminton, Gardening, Football