Aarjav Jain

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EDUCATION

Brown University, Providence, RI   *Expected* April 2027
MSc Computer Science

King's College London, London, UK   July 2024
BSc Computer Science (Artificial Intelligence) with Management and a Year Abroad
Honors: First Class Honors
Study Abroad: AI + Biotechnology @ University of Toronto

PROFESSIONAL EXPERIENCE

Singh Lab, Providence, United States   September 2025 - Present
Research Assistant
- Enhanced a graph-based DL framework to uncover **novel therapeutic targets** for clinical drugs discontinued for non-safety reasons
- Integrated heterogeneous biomedical knowledge graphs (DrugBank, DDInter, PharmaDB, Hetionet) for drug-gene-disease networks
- Currently collaborating with biologists at the **NIH and NIC** to validate predictions with experimental oncology data

Deutsche Bank, London, UK   July 2024 - August 2025
Graduate Software Engineer
- Built a **real-time** risk monitoring system ingesting thousands of trades per second with **nanosecond-level latency**
- Designed the architecture for **multi-partition data retrieval** stacks in KDB+/Q for **100× faster high-volume queries**
- Implemented a **cross-stack de-duplication layer** to prevent redundant data retrieval
- Developed a dashboard to **identify noisy usage** of our market data, resulting in ~**$400,000 annual cost savings**

Upsizzle AI, London, UK   April 2025 - July 2025
Co-Founder + CTO
- Built a **Generative Engine Optimization** platform offering share-of-voice insights, affiliate-link recommendations, competitive analytics, and more to help publishers surface high-value content
- Onboarded **pilot customers** in San Francisco and iterated on the product with real-world feedback to improve retention, leading to a **4x increase in conversions** through AI-search recommendations

PROJECTS

HIPS – Hierarchical Inference of Pathology Staging   Ongoing 2025
- Developing a **hierarchical transformer** framework to model disease progression in large-scale single-nucleus datasets (~1.3M cells × 36K genes) from the Allen Institute's SEA-AD initiative, in collaboration with researchers at Brown University
- Extending scVI-based models with **multi-scale attention** to learn biologically meaningful representations across cortical regions

Riddlr – KG-RAG for Instruction Manuals   April 2025
- Engineered a **KG-RAG** pipeline to parse any instruction manual and extract entities and relations into **Neo4j**, enabling **structured retrieval** for **LLM grounding**
- Built a user chat UI that generates concise, citation-backed answers with contextual follow-ups using Google Gemini

Fascicle Length Segmentation (First Class Dissertation Project)   May 2024
- Developed a **zero-shot Noise2Noise CNN** to automate B-mode ultrasound preprocessing, **boosting accuracy by 11%**
- Tracked fascicle motion across serial B-mode frames using **affine optical flow and sparse representations**, improving temporal consistency and reducing segmentation drift; Replaced legacy software "UltraTrack" at King's College London

GaitMed   October 2023
- Used smartphone accelerometer and gyroscope data to extract gait features and train **SVM/LSTM** models that flag early markers of early onset chronic diseases such as Parkinson's and diabetic neuropathy
- Collaborated cross-functionally with F2 Doctors; prototype voted **Best Project at NHS Hack Day 2023**

Bike-Share Navigation System   September 2023
- Led a team of 10 to build a **Flutter (Dart)** app integrating the **Santander Cycle API** and **Firebase**, implementing route-optimization to recommend the most cost-efficient journeys across London's bike-share network

SKILLS

Coding: Java, Python, C++, KDB+/Q, SQL, Scala, TypeScript, Cypher, Haskell, GCP, Flutter, Django, Dart, React, NextJS, …
Language: English (Native), French, Dutch, Hindi, Gujarati
Other: University Cricket, University Badminton, University Club Lacrosse, Mentor for Undergrads, A-Levels Math Tutor for Special Needs