

# Avish Vijayaraghavan

Translational Machine Learning for Precision Medicine

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## WORK EXPERIENCE

### Roche

*Data Science Intern*

London, UK

June 2025 - Aug 2025

- Worked on LLMs for paediatric cancer reports as part of their GOSH DRIVE partnership.

### Great Ormond Street Hospital

*Data Scientist*

London, UK

July 2024 - Aug 2025

- Jul-Dec 24: full-time intern between NHS and GOSH DRIVE, using LLMs to analyse renal biopsy reports.
- Jan-May 25: part-time intern at GOSH DRIVE, writing up a paper on renal biopsy work.
- Jun-Aug 25: full-time intern between GOSH DRIVE and Roche, extending renal biopsy work to cancer.

### No Patient Left Behind

*Fellow*

Remote

Sept 2024 - Dec 2024

- Understanding how to make pharma innovation affordable via health insurance reform in the US, and learning about pharma policy, drug economics, and patient advocacy.
- Wrote about improving NICE's drug cost-effectiveness evaluations: [blog post on my website here](#).

### NHS Transformation Directorate

*Data Science Intern*

London, UK

Jul 2024 - Dec 2024

- Using LLMs to analyse histopathology reports.
- Working with [NHS Transformation Directorate's data science team](#) (Dan Schofield, Jonathan Hope, Jonny Pearson) and [GOSH DRIVE](#) (Pavi Rajendran, Neil Sebire).

### Microsoft Research New England

*Research Intern*

Cambridge, MA

May 2023 - Aug 2023

- Biomarker discovery for Parkinson's disease using proteomics data.
- Worked with Kristen Severson, Lorin Crawford, Ava Amini, and Ashley Mae Conard in the [BioML](#) team.

### Riverfield Partners LLP

*Scientific Consultant*

London, UK

Apr 2023 - May 2023

- Worked on pharma investments - analysed AI-based drug discovery companies and clinical trial results.

### Arts & Business College of London

*Academic Tutor*

London, UK

Jan 2022 - Jan 2023

- Tutored machine learning, maths, and biology at A-Level/undergrad level.
- Helped set up and deliver online data analytics course to foreign students.

### Imperial College London (Imperial Branch of St Mary's Hospital)

*Undergraduate Research Intern*

London, UK

July 2019 - Sept 2019

- Improving Gaussian process algorithms using curvature with Samir Bhatt.

### Stealth Startup

*Co-Founder, CTO*

London, UK

Dec 2018 - Sept 2019

- Tech startup using augmented reality for gamified marketing (think "Pokémon Go for coupons").
- Built proof-of-concept iPhone app and raised pre-seed.

## EDUCATION

### Imperial College London

*PhD Candidate in AI for Healthcare*

London, UK

Oct 2021 - Present

- Working on multimodal, interpretable learning for idiopathic pulmonary fibrosis, supervised by Joram M. Posma (Imperial), Phil Molyneaux (Imperial), Tim Ebbels (Imperial), and Daniel Muthas (AstraZeneca).
- Part of the third cohort for the [AI4Health CDT](#) programme. Funded by UKRI and AstraZeneca.
- CDT representative for '22/23 and '23/24.

### University College London

*MSc in Precision Medicine (Distinction)*

London, UK

Sept 2020 - Sept 2021

- Final Project: 3D Graph Representation Learning for Transition State Generation, supervised by Brooks Paige.
- Finished on Dean's List as highest performing student on course.

### **Imperial College London**

*BEng in Mathematics and Computer Science (Upper Second Class Honours)*

London, UK

Sept 2017 - July 2020

- Final Year Group Project: Cryptocurrency Exchange Platform for Bitcoin and Ethereum.
- Final Year Individual Project: Data Science for DLBCL Stratification, supervised by Elsa Angelini. [Presentation featured](#) on Department of Computing's YouTube channel.

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### PREPRINTS & PUBLICATIONS

From most recently published work. \* denotes first/joint-first authorship.

1. Liu, X., Zhang, J., Zhou, S., van der Plas, T., **Vijayaraghavan, A.**, et al. [Towards deployment-centric multimodal AI beyond vision and language](#). *Nature Machine Intelligence*, Oct 2025.
2. Patel, D.\*, Lain, A.D.\*., **Vijayaraghavan, A.\***, Mirzaei, N.F.\*., Mweetwa, M.N., Wang, M., Beck, T., & Posma, J.M. [Microbial Named Entity Recognition and Normalisation for AI-assisted Literature Review and Meta-Analysis](#). *bioRxiv (under submission)*, Aug 2025. [Code here](#).
3. Kawatra, J.S., Sabu, S., Rajendran, P., Baumgartner, C., **Vijayaraghavan, A.**, Sheldon, E.J., Booth, J., Sebire, N., Patel, S., Zenonos, A., & Pope, R. [Minimal Data Maximum Impact: Lessons Learned from Real-World Unstructured Data in Paediatric Care](#). *AAAI Bridge Program on AI for Medicine and Healthcare, PMLR*, Apr 2025. [Code here](#).
4. **Vijayaraghavan, A.\***, Badea, C. [Minimum levels of interpretability for artificial moral agents](#). *AI and Ethics*, July 2024.
5. Wang, M.\*., **Vijayaraghavan, A.\***, Beck, T., Posma, J.M. [Vocabulary Matters: An Annotation Pipeline and Two Deep Learning Algorithms for Enzyme Named Entity Recognition](#). *Journal of Proteome Research*, June 2024. [Code here](#).

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### TEACHING SERVICE, SUPERVISION, & OUTREACH

#### **Data Science Modules**

*Graduate Teaching Assistant*

Imperial College London

2021 - 2025

- Courses: Statistical Programming (MRes; Autumn 2021) Biomedical Data Science (BSc; Summer 2022, 2023, 2025), Computational Neuroscience (MSc; Autumn 2023).
- Helped develop Python code tutorials and assisted main course lead in live tutorials.

#### **Supervision for Biomedical Data Science Projects**

*Supervisor*

Imperial College London

2023 - 2024

- Pengfei Bai (co-supervised with Joram M. Posma; Oct 2023 - Sept 2024): MRes thesis on IPF metabolomics and topological machine learning.
- Dhylan Patel (co-supervised with Joram M. Posma; Summer 2023): BSc project on microbial named entity recognition.

#### **AI4Health Hackathon**

*Co-Organiser*

Imperial College London

Sept 2023

- Organised London's first [Generative AI x Healthcare hackathon](#). Raised funding for 3 day event from OpenAI, Hummingbird VC, and our AI4Health CDT.
- Took entrepreneurship focus and built prizes with Hummingbird VC and Microsoft for Startups.

#### **Science Communication**

*Content Creator*

Online!

Sept 2022 - Present

- Creating [YouTube videos](#) and writing [blog posts](#), mostly around research and books I find interesting.

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### SKILLS & INTERESTS

- **Programming Languages:** familiar with Python and R; exposed to Java, SQL, C, Swift, Haskell.
- **Technologies:** familiar with PyTorch, Git, Linux/Unix; exposed to CI/CD (GitLab, AWS, Azure), JAX.
- **Extracurricular:** Imperial College Hip Hop Society Founder & Web Secretary '19/20, Music Journalism ([published as a magazine](#)), Music Production ([my Spotify profile](#)).
- **Languages:** English (Native), Hindi (Passive Fluency), Russian (Conversational), Spanish (Conversational).