

Avish Vijayaraghavan

Translatable Machine Learning for Precision Medicine

av1017@ic.ac.uk • [avishvj.github.io](https://github.com/avishvj) • [linkedin.com/in/avish-vijayaraghavan/](https://www.linkedin.com/in/avish-vijayaraghavan/)

EDUCATION

Imperial College London

PhD Candidate in AI for Healthcare, supervised by [Joram M. Posma](#) and [Philip Molyneaux](#)

London, England

Oct 2021 - Present

- Working on multimodal, interpretable learning for idiopathic pulmonary fibrosis.
- Part of the third cohort for the [AI4Health CDT](#) programme. Funded by UKRI and AstraZeneca.

University College London

MSc in Precision Medicine (Distinction, ranked 1st)

London, England

Sept 2020 - Sept 2021

- Main courses: Bioinformatics & Structural Biology, Genetics & Epigenetics of Disease, Multiomics & Ethics, Precision Diagnosis for Precision Medicine, Computational Biology, Nanomedicines.

Imperial College London

BEng in Mathematics and Computer Science (First Class Honours in final year)

London, England

Sept 2017 - July 2020

- Main courses: Mathematical Biology, Applied Probability, Statistical Learning, Machine Learning, Computer Vision, Graphics, Robotics, Graphs and Algorithms.

WORK EXPERIENCE

University Tutor

Maths & Artificial Intelligence

Arts & Business College of London

Jan 2022 - Present

- Tutoring A-Level and university students in maths & artificial intelligence.
- Helped set up and deliver online data analytics course to foreign students.

Undergraduate Research Intern

Spatial Statistics, supervised by [Samir Bhatt](#)

Imperial Branch of St Mary's Hospital

July - Sept 2019

- Contributed to short project that aimed to improve the predictive accuracy of a machine learning method using a technique from differential geometry.

PROJECTS

3D Graph Representation Learning for Transition State Generation

MSc Thesis, supervised by [Brooks Paige](#)

Jan - Sept 2021

[Code](#)

- Created encoder-decoder model to generate transition states for unimolecular reactions in order to better characterise molecular synthesis routes.
- Performed similarly to [state-of-the-art model in literature](#) on performance and uncertainty calibration.

Data Science for DLBCL Stratification

BEng Thesis, supervised by [Elsa Angelini](#)

Nov 2019 - Aug 2020

[Code](#)

- Worked with biologists to split DLBCL cancer patients into more precise subgroups using machine learning.
- [Presentation featured](#) on Department of Computing's YouTube channel.

XCLAIM, Cryptocurrency Interoperability Platform

BEng Software Engineering Group Project

Oct 2019 - Jan 2020

- Following a [novel proof-of-concept](#), implemented a cryptocurrency exchange platform from Ether to Bitcoin.

SKILLS & INTERESTS

- **Programming Languages:** familiar with Python, Java, R; exposed to SQL, C, Haskell, Solidity.
- **Technologies:** familiar with PyTorch, Git, Linux/Unix, \LaTeX ; exposed to CI/CD (GitLab, AWS), TensorFlow.
- **Extracurricular:** Imperial College Computing Football Team Captain '19/20, Imperial College Hip Hop Society Founder & Web Secretary '19/20, Music Journalism ([originally published in Imperial's Newspaper](#)).
- **Languages:** English (Native), Russian (Basic), Spanish (Basic).

ACHIEVEMENTS

hatch Hack 2018 Winners

Business model for app targeting postpartum depression in North India.

Ministry of Justice - London, UK

Nov 2018

B1 Proficiency Russian

Referring to the TKRI levels, progressed from A2+ to B1.

Liden & Denz School - Moscow, Russia

June 2018

Arabic Level 1 Course

Extra module taken in my BEng first year.

Imperial Horizons - London, UK

Nov 2017 - May 2018

Future Problem Solving Program

Won national program four years running; highest placed European team in international program.

UK, USA

2014-2017