

Amirmohammad Farzaneh








amirmohammad.farzaneh@eng.ox.ac.uk | amirmohammad.farzaneh@mansfield.ox.ac.uk
 📍 Oxford, United Kingdom

LINKS

🌐 LinkedIn
 🏠 Home page

TECHNICAL SKILLS

PROGRAMMING

Matlab 
 C/C++ 
 Python 
 L^AT_EX 
 R 
 Java 
 Verilog 

SOFTWARES

Comsol multiphysics • ISE Design Suite • Pspice • Microsoft office • Apple iWork • Modelsim • MPLab • Adobe Autocad • Adobe Photoshop

MICROCONTROLLERS

FPGA • PIC32 • Arduino

OS

Windows • Mac • Ubuntu

LANGUAGES

English 
 Persian 
 French 

NOTABLE PERSONAL SKILLS

Communication • Leadership • Time management • Teamwork • Fast learning • Public speaking

HOBBIES

Photography • Piano • Rowing • Novels

EDUCATION

University of Oxford

PHD IN ENGINEERING SCIENCE | SINCE OCT 2020 | OXFORD, UK
 Academic supervisor: Professor Justin P. Coon

Sharif University of Technology

BSC IN ELECTRICAL ENGINEERING | GRAD. AUG 2020 | TEHRAN, IRAN
 Cum. GPA: 19.25/20

National Organization of Development of Exceptional Talents (NODET) - Allameh Helli 3 high school

DIPLOMA OF MATHEMATICS AND PHYSICS | GRAD. 2016 | TEHRAN, IRAN
 Cum. GPA: 19.95/20

OUTSTANDING ACHIEVEMENTS

Mansfield College student of the year

University of Oxford | 2021-2022 academic year

The Top-ranking student of the Electrical Engineering program

Sharif University of Technology | Class of 2020

Ranked 2nd in Iran's national university entrance exam (Konkour)

Summer 2016

PUBLICATIONS

- Amirmohammad Farzaneh and Justin P Coon. Practical random tree generation using spanning trees: Entropy and compression. ICML 2023 Neural Compression Workshop, 2023
- Amirmohammad Farzaneh, Mihai-Alin Badiu, and Justin P Coon. Treeexplorer: a coding algorithm for rooted trees with application to wireless and ad hoc routing. In 2022 IEEE 96th Vehicular Technology Conference (VTC2022-Fall), pages 1–5. IEEE, 2022
- Amirmohammad Farzaneh and Justin P Coon. An information theory approach to network evolution models. Journal of Complex Networks, 10(3), 06 2022. cna020
- Amirmohammad Farzaneh, Justin P Coon, and Mihai-Alin Badiu. Kolmogorov basic graphs and their application in network complexity analysis. Entropy, 23(12):1604, 2021
- Amirmohammad Farzaneh, Mihai-Alin Badiu, and Justin P Coon. BernoulliZip: a compression algorithm for Bernoulli processes and Erdos-Renyi graphs. arXiv preprint arXiv:2105.06708, 2021
- Benjamin R Ecclestone, Amirmohammad Farzaneh, Kevan Bell, and Parsin H Reza. Deep optical resolution photoacoustic remote sensing microscopy (conference presentation). In Photons Plus Ultrasound: Imaging and Sensing 2020, volume 11240, page 1124013. International Society for Optics and Photonics, 2020

RESEARCH EXPERIENCE

Information and Network Science Lab | University of Oxford

October 2020 - present | Oxford, United Kingdom

My current research focuses on finding information theoretic measures of complexity for networks, while trying to compress them to their limit and use this compression in applications such as routing in wireless networks.

Software-defined networking lab | Sharif University of Technology

December 2019 - March 2020 | Tehran, Iran

Worked with Dr. Babak Khalaj on solving the problem of virtual node and link mapping and admission control in communication systems using deep learning

Photomedicine Labs | University of Waterloo

July 2019 - December 2019 | Waterloo, Canada

Worked with Dr. Parsin Haji Reza on improving a novel photoacoustic imaging technique by means of optical imaging simulations and image processing (Achieved up to 150% increase in depth for in-vivo imaging)

Bachelor Thesis: RNA Tracking | Sharif University of Technology

April 2019 - April 2020 | Tehran, Iran

Worked with Dr. Babak Khalaj on extrapolating future state of cells from single cell RNA-seq data

Augmented Intelligence Research (AIR) Lab

Jun 2018 – Mar 2019 | Tehran, Iran

Worked with Dr. Hamid K. Aghajan on predicting seizure attacks on patients with epilepsy disorder using nonlinear measures

SELECT TEACHING EXPERIENCE

2022-2023	Lead tutor of Information Engineering course (B14) Department of Engineering Science, University of Oxford
2022-2023	A2 paper tutor Oriel College, University of Oxford
2022-2023	B13 paper tutor Department of Engineering Science, University of Oxford
2022-2023	Maths and Computer Science tutor Mansfield College, University of Oxford
Summer 2022	Computer Science tutor Immerse Summer School, Oxford
2021-2022	Lead tutor of Information Engineering course University of Oxford
Spring 2019	Signals and systems course project assistant Sharif University of Technology
Fall 2019	Engineering math tutor Sharif University of Technology
Fall 2019	Statistical learning problem designer Sharif University of Technology
2018-2019	Head of Calculus Group Ghalamchi Educational Complex
Fall 2018	Matlab mentor Sharif University of Technology
Fall 2018	Verilog mentor Sharif University of Technology
Fall 2018	Principles of Electrical Engineering lab assistant Sharif University of Technology

VOLUNTEER ENGAGEMENTS

2021- 2023	President of Mansfield College MCR
2020-2021	Vice-President of Mansfield College MCR
2018-2019	Scientific president of Resana student club EE Department, Sharif University
Summer 2018	Guide manager at the 29th International Biology Olympiad (IBO)
Summer 2017	Team guide for the 29th International Olympiad in Informatics (IOI)