

C. J. Roger Lo

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Personal Profile

A first-year PhD student of the infamous Signal Processing and Communications Laboratory at the University of Cambridge. Zealous about fund industry (especially private equity and cash cows like telecoms) and with several years of experience specialising in stochastic processes, optimal transport, computer simulation, statistical machine learning, supply chain, and algorithm design.

Education

University of Cambridge

Cambridge, England, UK

PhD in Information Engineering

Jan 2023 - Current

- **Cambridge Trust scholar**, Taiwan–Cambridge scholarship, Queens' College membership
- Information Theory, Hypothesis Testing, Sampling & Inference, Markov Chain Monte Carlo

University of Edinburgh

Edinburgh, Scotland, UK

MSc by Research in Informatics

Feb 2022 - Dec 2022

- **Dissertation:** Shrinking City-Scale Internet Traffic through Optimal Transport Video Recommendation
- Paid RA-ship for Virtual-RAN anomaly detection and (counterfactual) causal inference, a collaborative work with Microsoft Research Cambridge

National Taiwan University

Taipei, Taiwan

BS in Electrical Engineering, MS in Communication Engineering

Sep 2013 - Jul 2017, Sep 2019 - Jul 2021

- Graduate GPA: 4.13/4.3
- **Thesis:** Optimal Sampling and Scheduling for Correlated Sources in Information-Centric Wireless Sensor Networks
- **Leadership:** Representative of the EECS College, President of the Student Association of the Graduate Institute of Communication Engineering

Publications & Preprints

XXXXXXXXXX Traffic Reduction XXXXXXXXXX

Cambridge, England, UK

C. J. Roger Lo, XXXXXXXXXX, XXXXXXXXXX, XXXXXXXXXX

Under review (ACM Flagship Conference)

Shrinking City-Scale Internet Traffic through Optimal Transport Video Recommendation (MScR Dissertation)

The University of Edinburgh

C. J. Roger Lo

Master Dissertation 2022

Optimal Recovery of Correlated Sources in Information-Centric Wireless Sensor Networks (MS Thesis)

National Taiwan University

C. J. Roger Lo

Master Thesis 2021

Optimal Sampling and Scheduling for Multi-Source Recovery via Age-of-Information Minimization

Taipei, Taiwan

C. J. Roger Lo, Hung-Yun Hsieh

Preprint

Information-Centric Scheduling: Queue Shortening in WSNs via Spatio-Temporal Compression

Bonn, Germany

C. J. Roger Lo, Hung-Yun Hsieh

SDF 2022 – Sensor Data Fusion: Trends, Solutions, Applications

Work Experience

SigProc Group, Engineering Department, University of Cambridge

Cambridge, UK

PhD student (under Prof. Albert Guillén i Fàbregas, super friendly as all the other Spanish I met)

2023-

- I was originally recruited by the esteemed mathematician/statistician, Prof. Sumeetpal S. Singh, who was at that time the group head and now starting a new position as the \$1.25M Tibra Chair of University of Wollongong, Australia.
- Research Interests: Statistical Inference, Hypothesis Testing, Information Theory

NetSys Group, School of Informatics, University of Edinburgh

Edinburgh, Scotland, UK

Paid RA with £2.3K/month (under Prof. Mahesh K. Marina, a passionate and notable scholar in the area)

2022

- Paring down the Internet traffic in city-scale via optimal transport video recommender, jointly advised by Prof. Nishanth Sastry (Cantab).
- Research Interests: Network Data Analysis, Video Recommendation, Machine Learning for Open-RAN (with Microsoft Research Cambridge)

Mobile Networks and Wireless Communications Lab, NTU

Taipei, Taiwan

Student Research Assistant (under Prof. Hung-Yun Hsieh, Georgia Tech PhD, an respectful advisor who teaches with patience, diligence, and willingness to aid)

2019 - 2021

- I decided to get into a research career comparably late. This is where I start establishing my taste and skills.
- Research Interests: Wireless Sensor Networks, Stochastic Optimization, Information Theory

Artificial Intelligence and Multimedia Lab, NTU

Taipei, Taiwan

Undergraduate Project (under Prof. Tsung-Nan Lin, Princeton PhD, the wise mentor of my life)

2016 - 2017

- A software-defined network (SDN) routing policy with meter-based method for enhancing the QoS of video streaming services.

Institute of Information Science, Academia Sinica, Taiwan

Taipei, Taiwan

Part-time RA (under Prof. De-Nian Yang, well-known Taiwanese academic in his field)

2019 - 2020

- Joined Advanced Algorithms study group and Graph Neural Networks (GNN) study group.

Relevant Coursework & Skills

Online Degree	MIT MicroMasters Online Credential Program in Supply Chain Management: Supply Chain Analytics, Supply Chain Fundamentals, Supply Chain Design, Supply Chain Dynamics, Supply Chain Technology and Systems
Cambridge	Advanced Information Theory & Coding (4F5), Statistical Signal Analysis (4F7), Concentration Inequalities (Part III), Bayesian Modeling & Computation (Part III), Data Transmission (3F4), Information Theory & Coding (3F7)
Advanced	Information, Control & Games, Queueing Theory, Numerical Linear Algebra, Matrix Computations, Convex Optimization, Computer Simulation, Selected Topics in Engineering Mathematics, Overcoming Uphill Challenges for the New Generation Entrepreneur, Quantum Algorithms, Applications of Quantum Computation, Mathematical Principles of Machine Learning, Information Theory (audit)
Preliminary	Probability & Statistics, Signals & Systems, Algorithms, Data Structures, Graph Theory (I), Computer Networking, Principle of Communications, Discrete Mathematics, Complex Variables, Matrix Theory, Linear Algebra, Computer Programming, Calculus (I)(II), General Physics (I)(II)
Programming	Python (NumPy, Pandas, Vaex, Scikit-learn, etc.), Matlab (cvx), C++, HTML/CSS, SQL
Miscellaneous	TeX (Overleaf), ChatGPT, Github, Terminal (basics), Microsoft Office (Word, Excel, PowerPoint)

Interests

Billionaires	Masayoshi Son (SoftBank), John D. Rockefeller, Michael Bloomberg, Akio Morita (SONY), Steve Jobs, Bill Gates, Warren Buffett, Charlie Munger, Ray Dalio, Steven A. Cohen, Larry Ellison, Elon Musk, Larry Lam (Quanta, NTUEE alumni), Robert Tsao (UMC, NTUEE alumni), Terry Guo (Foxconn), Simon Huang (WPG Holdings), Paul J. Getty, Donald J. Trump, etc. My favorite cars encompasses: Cadillac Celestiq & Escalade, Rolls-Royce Spectre, Bentley Continental GT, Ferrari GTC4
Cars	Lusso, Aston Martin DB5 & DB9 (James Bond), Mach 5 (Speed Racer), Mercedes-Benz CLS (C218), DMC DeLorean (Back to the Future). My ability to recognize most car brands in the traffic was cultivated naturally before I was 2.
Traveling	UK, USA 4x, France 3x, Germany 3x, Ireland, Canada, Netherlands 2x, Austria, Japan 8x, Korea, China 3x, Indonesia, Vietnam, Singapore, Malaysia, etc.
Psychiatry	I accompanied with people with bipolar disorder, depression, borderline personality disorder (BPD) and post-traumatic stress disorder (PTSD). I am interested in psychometrics (and its relation with Wittgenstein's private language argument).
Philosophy	I am influenced by Ludwig Wittgenstein (Cantab), Derek Prince (Cantab), Bertrand Russell (Cantab), Nietzsche, Hume, Plato, and Marcus Aurelius. Beyond philosophy, I am a Roman Catholic – "The fear of the LORD is the beginning of knowledge."