

Xi Lu, PhD    

Cambridge, UK | +44 74192 87108 | Right to work: United Kingdom & Hong Kong

## Professional Summary

10+ years of cross-domain experience applying **Hybrid Intelligence**, statistical modelling, and machine learning to real-world problems across public health, informatics, and telecommunications. Proven record of building robust ML pipelines, delivering cloud-based analytics, and translating complex data into actionable insights. Strong cross-disciplinary communicator skilled in Python, R, SQL, and modern MLOps tools.

## Key Achievements

- Improved genomic cluster classification accuracy by 25% through ML pipeline optimisation in Python and Nextflow.
- Accelerated large-scale genomic data processing (20,000+ records) by 30% through automated ETL (Extract, Transform, Load) workflows.
- Built Bayesian models forecasting infectious disease trends, supporting vaccine strategy and public-health decisions.
- Supervised postgraduate teams on ML and epidemiological modelling, improving research quality and output impact.

## Core Skills

- Programming: Python (Pandas, NumPy, scikit-learn), R, SQL, Shell, Git, Jupyter, MATLAB
- Machine Learning: Supervised learning, forecasting, feature engineering
- Data Engineering: ETL, data cleaning, visualisation, A/B testing, statistical inference
- Cloud & MLOps: Google Cloud Platform, Nextflow, Linux, Docker, version control (Git)
- Domains: Genomics, AI for public health, information technology

## Professional Experience

- **Chief Scientist & Founder | Sloxen Ltd, Cambridge, UK (Dec 2025 - Present)**
  - Lead Sloxen Ltd, overseeing hybrid intelligence frameworks that combine data, machine learning, and expert judgment to produce actionable and trustworthy insights.
  - Design, prototype, and guide production of practical analytics.
  - Partner with organisations to conceptualise and deploy transparent AI/data systems that perform under real-world constraints.
- **Research Fellow | Wellcome Sanger, Cambridge, UK (Apr 2024 - Dec 2025)**
  - Designed and automated ML pipelines for genomic cluster analysis using Python and Nextflow, improving outbreak detection efficiency.
  - Processed and standardised 20,000+ genomic datasets for global surveillance, ensuring data integrity and high-quality downstream analysis.
  - Collaborated with cross-functional engineering and data teams to curate and migrate biomedical data across cloud environments.
- **Research Associate | Imperial College London, London, UK (Jun 2020 - Dec 2023)**
  - Developed a Bayesian ML framework to model genomic epidemiology and forecast infectious disease burdens across the UK.

- Analysed multi-country genomic datasets (>100,000 records) to identify bacterial migration and resistance trends influencing vaccine design.
- Supervised 3 postgraduate projects in ML and data analytics; delivered teaching in statistics and applied machine learning.
- Published conference papers and manuscripts on computational modelling and AI for public health applications.
- **Visiting Scholar | Tampere University, Tampere, Finland (Sep 2018 - Dec 2018)**
- Conducted research on mission-aware systems and reliability modelling for next-generation 5G networks, producing 2 peer-reviewed publications.
- **Teaching Assistant | King's College London, London, UK (Sep 2017 - Jun 2019)**
- Delivered tutorials and marked coursework for modules in data structures, computing, and circuit theory (~300 students).
- Supervised MSc projects applying ML to optimise wireless network traffic.
- **Independent Football Reporter | London, UK (Dec 2015 - May 2019)**
- Reported football matches and interviewed players in the Premier League. Texts, audio, video, reports, and interviews were published in Chinese and English by Nouvelles d'Europe, Premier League, Aiqiyi Sports, and Tencent Sports.

## Education

- PhD, Telecommunications Research | King's College London, UK (2015 - 2019) - Thesis: 5G-U: Coexistence Framework for 5G Cellular and IEEE 802.11ad/ay
- MSc, Telecommunications and Internet Technology | King's College London, UK (2013 - 2015)
- BEng, Information Engineering | Wuhan University of Technology, China (2009 - 2013)

## Professional Certifications

- Google Advanced Data Analytics Professional Certificate (2024 - 2025)
- Google Data Analytics Certificate (2024)
- DeepLearning.AI Machine Learning Specialisation - Stanford University (2024)

## Selected Publications

- Coexistence of New Radio and IEEE 802.11ad/ay Technologies in Unlicensed mmWave Bands, IEEE Trans. Veh. Tech., 2021
- Applying Blockchain Technology for Users Incentivization in mmWave Networks, IEEE Access, 2020
- 5G-U: Integrated Utilisation of Licensed and Unlicensed Spectrum, IEEE Communications Magazine, 2019

## Languages

English (professional) | Chinese (native) | German (intermediate) | Russian (basic)

## References

Available upon request from Prof Mischa Dohler, Prof Toktam Mahmoodi, Prof Nicholas Croucher, Dr Stephanie Lo.