

# YI, Yueyang

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## Research interests

Public health, artificial intelligence for medicine, big data in healthcare.

## Education

### Georgia Institute of Technology

Atlanta, US

Master of Science in Computer Science

Aug. 2024 – Present

### Katholieke Universiteit Leuven

Leuven, Belgium

Master of Science in Statistics and Data Science

Oct. 2018 – July 2023

*Thesis: Refining population mapping with night-time lights: a Bayesian spatio-temporal approach with SPDE-INLA.*

### University College London

London, UK

Master of Science in Earthq. Eng. with Disaster Mgmt. Sep. 2017 – Jan. 2019

*Thesis: A novel nighttime-lights-based framework for the large-scale monetary flood risk assessment and mapping.*

### The University of Sheffield

Sheffield, UK

Bachelor of Engineering in Civil Engineering

Sep. 2014 – June 2017

*Thesis: Smoothed-particle hydrodynamics modelling of free surface flows.*

## Editorial

**Yi, Y.** and Lam, T.Y.T. (2024) 'How close are we from achieving demographic diversity in clinical trials? Insights from Singapore' [Editorial], *Annals, Academy of Medicine, Singapore*, 53(7), pp. 407-409. doi: <https://doi.org/10.47102/annals-acadmedsg.2024226>

## Conference posters

**Yi, Y.**, Du, Z.Z., Guo, Y. and Lam, T.Y.T. (2024) 'Clinical effectiveness of artificial intelligence in optical diagnosis of diminutive colorectal lesions: a systematic review and meta-analysis' [Poster], *International Digestive Disease Forum 2024*. Hong Kong, 10-11 August. doi: <https://doi.org/10.1136/gutjnl-2024-IDDF.319>

**Yi, Y.**, Du, Z.Z., Guo, Y. and Lam, T.Y.T. (2024) 'Real-time use of artificial intelligence in characterisation of diminutive polyps during colonoscopy: a systematic review and meta-analysis' [Poster], *Digestive Disease Week 2024*. Washington, D.C., 18-21 May. doi: <https://doi.org/10.1016/j.gie.2024.04.714>

Lam, T.Y.T., **Yi, Y.**, Cheung, M.F.K., Goh, W.W.B. and Sung, J.J.Y. (2024) 'Acceptance and trust of artificial intelligence in clinical practice among gastroenterology nurses' [Poster], *Digestive Disease Week 2024*. Washington, D.C., 18-21 May. doi: [https://doi.org/10.1016/S0016-5085\(24\)02523-X](https://doi.org/10.1016/S0016-5085(24)02523-X)

## Conference talks

Lam, T.Y.T., Yi, Y., Choi, K.C., Lui, R.N. and Sung, J.J.Y. (2024) 'Long-term effect of colorectal cancer screening by colonoscopy vs fecal immunochemical test in Chinese population. a cohort study with a median follow-up of 14 years' [Oral presentation], *Digestive Disease Week 2024*. Washington, D.C., 18-21 May. doi: [https://doi.org/10.1016/S0016-5085\(24\)00594-8](https://doi.org/10.1016/S0016-5085(24)00594-8)

## Work in progress

*Silent majority from rural India: Where are they now?*, accepted by *NetMob 2024*.

*How do natural disasters affect population movements and economic activity in affected areas?*, accepted by *NetMob 2024*, with Roy Meijer.

*Measuring migration, economic activity, and the impact of special events with mobility data*, accepted by *NetMob 2024*, with Ziyue Zhu.

*What factors influence the actual usage of artificial intelligence among gastroenterology nurses? Perspectives from a moderated mediation model.*, ready to submit, with Thomas Lam.

*Developing and validating a risk score to predict clinically significant prostate cancer among Asian men*, ready to submit, with Thomas Lam.

*Usage of Internet to promote healthy lifestyle among antenatal women: a cross sectional design*, in preparation, with Ying Lau.

*Clinical effectiveness of artificial intelligence in optical diagnosis of neoplastic colorectal polyps during colonoscopy*, in preparation, with Thomas Lam.

*High-resolution population estimation exploiting national census and household survey: a Bayesian spatial model with SPDE-INLA*, in preparation, with Thomas Neyens.

## Research experience

### **Stanley Ho Big Data Decision Analytics Research Centre**

The Chinese University of Hong Kong

Hong Kong SAR

Research assistant, with Prof Thomas YT Lam

Aug. 2023 – Present

Projects: risk score developments for multi-cancer screening (diagnostic performance analysis; cost-effectiveness analyses; clinical decision-making); cancer risk factor evaluation (dose-response analyses; cohort studies; case-control studies); long-term retrospective studies on cancer screening strategies (electronic medical record analyses; survival analyses); AI for medicine (diagnostic performance analysis; cost-effectiveness analyses; meta analyses; randomised controlled trials); nursing (causal analyses).

## **Water Equity Laboratory**

The University of California, Irvine

Irvine, US

Visiting researcher, with Prof Maura Allaire

July 2019 – Aug. 2019

Projects: comparative studies on economic and engineering understandings on monetary risk of disasters; flood insurance popularisation (quasi-experimental design with difference-in-differences and propensity score matching).

## **Industry experience**

### **United Nations ESCAP, IDD/IDS**

Bangkok, Thailand

Intern

June 2022 – Nov. 2022

Projects: Asia-Pacific information superhighway (look-up tool for ICT-related databases and publications; website development); digital climate data and digital connectivity data analyses.

### **SCOR, R&D**

London, UK

Intern

June 2018 – Aug. 2018

Projects: interactive platform for catastrophic loss mapping (disaster catalogue collection; cartographic standard establishment; quality assurance and quality control; geospatial data analyses and visualisations).

### **Lantian Civil Engineering Technology, TD1**

Nanjing, China

Intern

July 2016 – Aug. 2016

Projects: foundation pit excavation monitoring (settlement observations); pile foundation testing (low-strain detection; static load experiments).

## **Skills**

### **Programming**

Proficient in: R (ANOVA, linear regression, generalised linear regression, time series models, survival analysis, robust statistics, Bayesian statistics, mixed effects models, nonparametric statistics, spatial and spatiotemporal models, meta analysis), SAS (sampling, multivariate statistics).

Familiar with: MATLAB (basics), Python (machine learning, stochastic models, interactive visualisation, textual mining, web scrapping).

### **Software**

Statistics: BUGS, JAGS, INLA (Bayesian statistics), JMP (experimental design).

Geographic information systems: QGIS, ArcGIS.

Cloud: Alibaba Elastic Compute Service (ECS).

Productivity: Microsoft Office, R Markdown,  $\LaTeX$ .

### **Languages**

Mandarin (native), English (fluent), French (CEFR A2).