# Qiuyu (Louis) Lu

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## Education

**University of Wollongong, School of Physics** — Wollongong, Australia
Master of medical radiation physics(ACPSEM and CAMPEP accredited), WAM: 90.6/100 — 2024.7 – Present

**Ludwig-Maximilian-Universität München, Fakultät für Physik** — Munich, Germany
Master program of physics(withdrew) — 2020.10 – 2021.3

**Huazhong University of Science and Technology, School of Physics** — Wuhan, China
Bachelor of Science, major in physics, GPA: 3.50/4 — 2016.9 – 2020.6
Bachelor thesis: *Review on relativistic quantum information*,  Supervisor: Prof. Jianming Cai

**Huazhong University of Science and Technology, School of Optoelectronic Information** — Wuhan, China
Major in optoelectronic information(later transferred to physics), GPA: 3.86/4 — 2015.9 – 2016.9

## Research

**Image X Institute, University of Sydney** — Sydney, Australia
Deep learning based marker-less tracking research project — 2025.7 - 2025.9
   • Developed deep learning models for 2D segmentation of lung tumors using 4DCT datasets.
Supervisor: Prof. Paul Keall, Dr. Chandrima Sengupta, Dr. Zhuang Xiong

**HUST-UULM International Joint Laboratory on Quantum Sensing and Quantum Metrology** — Wuhan, China
Undergraduate research assistant — 2018.10 - 2020.6
   • Quantum sensing and quantum metrology technology
   • Quantum dynamics in biophotonics
Supervisor: Prof. Jianming Cai

## Working

**Jinshazhou Hospital of Guangzhou University of Chinese Medicine** — Guangzhou, China
Radiotherapy shadowing — 2024.6

**Educational institution** — Shenzhen, China
Math and physics tutor — 2022.1 – 2024.1
   • A-Level Mathematics, A-Level Mathematics further, A-Level Physics
   • AP Precalculus, AP Calculus, AP Physics
   • Sixth Term Examination Paper (STEP), Mathematics Admissions Test (MAT), Physics Aptitude Test (PAT)
   • Chinese Physics Olympiad

## Publications

• Min Yu, Pengcheng Yang, Musang Gong, Qingyun Cao, **Qiuyu Lu**, Haibin Liu, Shaoliang Zhang, Martin B Plenio, Fedor Jelezko, Tomoki Ozawa, Nathan GoldAman, Jianming Cai, *Experimental measurement of the quantum geometric tensor using coupled qubits in diamond*, *National Science Review*, vol. 7, issue 2, 2020, pp. 254–260. DOI: 10.1093/nsr/nwz193

## Meetings

- MMND-ITRO 2025, Sydney                                                2025.2
- American Physical Society March Meeting, Boston                        2019.3
- Many body entanglement & topological matter school, SUSTech           2019.1
- Chinese Physical Society Annual Meeting, Wuhan University             2017.12
- National symposium of quantum simulation, Shanxi University          2017.10

## Awards & Honours

- Online-Germany Physics Tournament 2020, By20, Best Reviewer          2020.12
- Lecture on scientific big data, PARIS-SUD HONORS                       2018.3
- MCM/ICM, Honorable Mention                                            2018.2
- ITPO for undergraduate Students, Tied 1st place                       2018.1
- University Physics Competition, Silver medal                         2017.11
- Outstanding undergraduates in terms of academic performance(top 0.5%) 2017.10
- National Scholarship(top 1%)                                         2017.10

## Skills & Interests

- **Programming:**
    - C/C++: scientific computing
    - Python: deep learning architecture implementation (cGAN for medical image segmentation)
    - Fortran: high-performance modeling for numerical methods
    - R: statistical analysis, data visualization

- **Applications:**
    - MATLAB, Mathematica: signal processing, optimization, symbolic computation
    - COMSOL Multiphysics, Geant4: FEM for EM fields, radiation transport and dosimetry
    - Blender, LaTeX: 3D modeling, visualization for science communication

- **Languages:**
    - Mandarin: native
    - English: fluent (TOEFL R30/L28/S24/W26; GRE V152/Q170/W3.5)
    - Japanese: work proficiency

- **Interests:** Chinese calligraphy, classical music, coffee craft, photograph