

Randy Stefan Tanuwijaya

Software Engineer / Data Scientist / Optical Experimentalist
rstanuwijaya@conenct.ust.hk ; +852 6432 1949

Education and Training

Hong Kong University of Science and Technology	BSc	Physics and Computer Science (CGA: 3.7/4.3)	2022
Hong Kong University of Science and Technology	PhD (candidate)	Physics	2022-now

Honors and Awards

Best Teaching Assistant, HKUST Physics Department, 2024
Hong Kong Postgraduate Fellowship Award, HKUST, 2022
First Class Honors, HKUST, 2022
Full Scholarship, HKUST, 2018
Silver Medal, Asian Physics Olympiad, 2018

Personal Projects & Internship Experience

- Junior Fullstack Developer @ Quokka HR, Summer 2021. Develop frontend (vue.js), backend (flask), and maintain database (SQLAlchemy).

Publication

1. Tanuwijaya, R. S., Liang, H., Xi, J., Wong, W. C., Yung, T. K., Tam, W. Y. & Li, J. Metasurface for programmable quantum algorithms with classical and quantum light. *Nanophotonics* **13**, 927-936 (2024).
2. Xi, J., Tanuwijaya, R. S. & Li, J. Optical complex-valued neural network with projection layers. In press (2024).
3. Yung, T. K., Xi, J., Liang, H., Lau, K. M., Wong, W. C., Tanuwijaya, R. S., Zhong, F., Liu, H., Tam, W. Y. & Li, J. Polarization coincidence images from metasurfaces with HOM-type interference. *iScience* **25**, 104155 (2022).

Research Group Affiliations

- Jensen Li, Metamaterial Research Lab (HKUST Physics), 2021-now. Project: computational imaging, optical metasurface, hybrid optical neural network.
- Jingdi Zhang, Terahertz Lab (HKUST Physics), 2024-now. Project: ultrashort optical spectroscopy.
- Shengwang Du, Quantum Optics Lab (HKUST Physics), 2020-2021. Project: all-optical neural network.

- Andrew Poon, Photonic Device Lab (HKUST Electrical & Computer Engineering), 2019-2020. Project: optical microring resonator.

Technical Tools

- Programming Languages: Wolfram Language, Python, Matlab, JS, C++.
- Research & Publication tool: Wolfram Mathematica, LabView, Comsol Physics (FDTD simulation), Blender (3d modelling).
- Others: linux (btw), git, AWS/Hetzner (hosting).

Extracurricular & Volunteering Activities

Undergraduate Hall Tutor (UG Hall 1), 2022-now

Peer companion (HKUST Counseling & Wellness Center), 2022-now