# Ka Wai (Karry) Wong, Ph.D.

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## Professional Profile

Versatile and collaborative software engineer utilizing 3 years in tech and research to deliver impactful algorithm solutions for AR/VR devices. Applied math PhD, avid coder, and multilingual professional in software engineering.

## Core Proficiencies

*Programming Languages:* Python, C++ (intermediate), MATLAB
*Languages:* English, German, Mandarin (fluent), Cantonese (native), and Hebrew (conversational)

## Professional Experience

*Meta Reality Labs*
**Software Engineer** Redmond, WA — Jun. 2022 – present
- Developed software to support firmware and hardware in AR glasses with focus on display, optics, and waveguide technologies that support prototypes' holographic display
- Developed computer vision algorithms on large-scale 3D reconstruction and mapping to support functionality and enhance performance of AR/VR devices such as Oculus Quest and Ray-Ban Stories

**Visiting Researcher** Burlingame, CA
- Deployed deep neural network to estimate location in 3D mapping for navigation on AR glasses; [paper]
- Conducted experiment to identify false positives in map alignment, developing rejection mechanism to resolve merge errors and ensure maps of different physical spaces are not combined inadvertently
- Built benchmarking system to profile components of our cloud service (Visual Positioning System)

*Lawrence Livermore National Laboratory* • Livermore, CA
**Postdoctoral Researcher** — Oct. 2021 – Jun. 2022
- Achieved first-ever 3D temperature measurement of nuclear fusion hotspot via computed tomography and 3D geometry modeling by developing noise-robust 3D reconstruction algorithms (MATLAB)
- Applied Bayesian inference on experimental data using Python emcee and large simulation dataset

**Graduate Student Researcher** — Dec. 2019 – Jun. 2021
- Earned 2x higher accuracy in x-ray emission measurement of nuclear fusion experiments by developing image denoising algorithms to analyze 100+ 2D x-ray images, featured in 3-min SLAM video

*Autodesk* • San Francisco, CA
**Software Engineer Intern** — Jun. 2021 – Sept. 2021
- Developed stochastic algorithm to compute volume enclosed by lattice structures for 3D printing
- Solved various 3D computational geometry problems involving implicit modeling, B-rep, and NURBS

*Rohde & Schwarz USA* • Beaverton, OR
**Software Engineer Intern** — Jul. 2019 – Sept. 2019
- Fixed 10+ critical bugs in object-oriented programming codebase (Python/C++, 3000+ lines) by implementing automated unit tests in WiFi technology (various WLAN 802.11 standards)

**Software Testing Engineer** (Munich, Germany) — Apr. 2016 – Sept. 2016
- Designed and developed automated unit test cases for Wideband Callbox on 4G LTE

*Center for Educational Effectiveness, University of California, Davis* • Davis, CA
**Graduate Student Researcher** — Summers 2017/18/19
- Received Outstanding Graduate Student Teaching Award for outstanding communication in math classes

## Education

**Ph.D. Applied Math** • *University of California, Davis* • Davis, CA • Sept. 2021 • GPA 3.9
**M.Sc. Math** • *Technical University of Munich* • Munich, Germany • Sept. 2015 • GPA 3.5
**Visiting researcher** • *Hebrew University of Jerusalem* • Jerusalem, Israel • Sept. 2014 – Jun. 2015
**Academic exchange** • *Technion* • Haifa, Israel • Sept. 2012 – Sept. 2013
**B.Sc. Math** • 1st class honors • *HKUST* • Hong Kong • Jun. 2011 • GPA 3.8