

# Ka Wai (Karry) Wong

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## Desired Roles: Software/Algorithm/ML Engineer, Data Scientist

Current works on [3D geometry modeling and data-driven analysis](#) for nuclear fusion experiments. PhD work on fast algorithms (C++) for conformal maps, see [GitHub](#).

## Professional Experience

- Oct 2021 - now **High-energy-density physics Postdoctoral fellow**, *Lawrence Livermore Natl Lab*.
- Achieved first-ever 3D electron temperature measurements of burning plasmas at the National Ignition Facility via limited-view x-ray emission tomography and 3D geometry modelling of nuclear fusion hotspot
  - Exploring data-driven approaches such as Bayesian inference and Markov-Chain Monte-Carlo method on experimental physics data by using python library [emcee](#) and the [open-source dataset on nuclear fusion experiment simulations](#)
  - (Dec 2019 - Jun 2021 as Graduate Student Researcher) Solved open problems regarding inconsistency in x-ray emission measurement of nuclear fusion experiments by develop robust image processing algorithms to analyze 100+ 2D x-ray images; that enabled 3D reconstruction using MATLAB image processing toolbox, work featured in [Student SLAM](#)
- Jun. - Sept. 2021 **Software Engineer Intern**, *Autodesk*, San Francisco, California.
- Designed and developed a volume estimation algorithm (C++) using stochastic sampling for volumetric shapes in additive manufacturing features for CAD tool Fusion360
  - Solved 3D geometry problems of solid models defined by implicit modeling and B-rep
- Jul. - Sept. 2019 **Software Engineer Intern**, *Rohde & Schwarz USA*, Beaverton, Oregon.
- Designed and successfully implemented automated unit testing cases in WiFi technology (various WLAN 802.11 standards) by coding in Python and using object oriented programming
  - (Apr-Sept 2016, worked as full-time software testing engineer in Munich headquarters) designed and developed automated unit test cases for Wideband Callbox on 4G LTE
- Summers 2017/18/19 **Graduate Student Researcher**, *Center for Educational Effectiveness*, UC Davis.
- Built up and analyzed large dataset containing 10+ different performance metrics of 5,000+ students, who are from underrepresented minority groups and with social disadvantages, from remedial learning using software ALEKS which help students achieve academic success

## Programming skills, trainings, and languages

Python (2 yr), C++ (3 yr), MATLAB (5 yr), R, Fortran (6 mth)

[Leetcode](#), Machine Learning (TensorFlow & PyTorch) on Coursera & Kaggle

Fluent – English, German, Mandarin; Native – Cantonese; Conversational – Hebrew

## Education

Ph.D. Applied Math (Sept 2021, GPA 3.9) University of California, Davis

MSc Math (2015) TUM in Germany; BSc Math (2011) HKUST in Hong Kong

Two-year research visits (2013-15) at Technion and Hebrew University in Israel