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Professional Profile

Versatile and collaborative software engineer utilizing 6+ years in science and engineering to deliver impactful algorithm and data structure solutions in geometry, simulation, and machine learning. Applied math PhD, avid and competitive coder, and multilingual professional in software engineering and data science.

Core Proficiencies

Programming Languages: Python (advanced), C++ (intermediate), MATLAB (expert), R, and Fortran

Technical Skills: Object-oriented programming, machine learning (TensorFlow & PyTorch)

Languages: English, German, Mandarin (fluent), Cantonese (native), and Hebrew (conversational)

Professional Experience

Lawrence Livermore National Laboratory • Livermore, CA

Postdoctoral Researcher

Oct. 2021 – Present

- 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) to enable data-driven and machine learning analysis (Bayesian inference, Markov-Chain Monte-Carlo) on experimental data using python libraries [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 a 3-min [SLAM](#) video

Autodesk • San Francisco, CA

Software Engineer Intern

Jun. 2021 – Sept. 2021

- Computed volume enclosed by solid bodies filled with lattice structures for 3D printing by inventing stochastic sampling algorithm. Validated algorithm using statistics and probability theory, and coded algorithm through multi-threading
- Benchmarked algorithm with conventional finite element methods resulting in 2x higher accuracy in the case of largely varying lattices/gyroids density
- 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

- Built and analyzed large dataset containing 10+ unique performance metrics of 5,000+ individuals using ALEKS software to support remedial learning students to achieve academic success
- Helped more than 1,200+ college students master calculus and advanced math topics in 15+ different courses over 5+ years through outstanding communication and coaching skills
- Selected for [Outstanding Graduate Student Teaching Award](#) out of 2,000+ teaching assistants

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

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 • *Hong Kong University of Science and Technology* • Hong Kong • Jun. 2011