

# Jeremy Welsh-Kavan

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## EDUCATION

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- **University of Oregon** Eugene, OR  
Master of Science, Physics Sep 2020 - Jun 2022
- **University of Oregon** Eugene, OR  
Bachelor of Science, Mathematics and Physics Sep 2016 - June 2020

## WORK EXPERIENCE

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- **Tutor** Aug 2023 – Present  
LA Tutors 123 Remote
  - ◇ Provided private tutoring in math and physics for courses in middle school, high school, and college.
  - ◇ Designed personalized supplementary course curricula to suit individual learning needs of students.
- **Senior Intern** Jun 2022 – Jun 2023  
Thermo Fisher Scientific Remote
  - ◇ Worked on a team of scientists to develop advanced technology for Thermo Fisher Scientific's Focused Ion Beam technology and related software.
  - ◇ Performed manual and automated milling and imaging on dual-beam scanning electron microscope systems using electron and focused ion beams.
  - ◇ Performed image analysis using machine learning techniques to infer beam characteristics and column geometry, such as beam point spread function, and column assembly and machining error.
  - ◇ Developed code to automate milling and imaging processes and perform image registration analysis.
- **Graduate Teaching Assistant** Mar 2022 - Jun 2022  
University of Oregon Eugene, OR
  - ◇ Instructed and graded coursework for tutorials and labs in undergraduate physics courses covering electricity and magnetism, circuitry, and Newtonian mechanics.
  - ◇ Provided tutoring for undergraduate physics courses on Newtonian mechanics, electricity and magnetism, thermodynamics, statistical mechanics, and quantum mechanics.
- **Graduate Research Assistant** Sep 2020 – Mar 2022  
University of Oregon Eugene, OR
  - ◇ Conducted individual and collaborative research in computational molecular biophysics
  - ◇ Performed and analyzed molecular dynamics simulations in high performance computing environments.
  - ◇ Developed theoretical models for biological macromolecules at multiple resolutions using mathematical tools from nonequilibrium statistical mechanics.
  - ◇ Developed and modified programs for the analysis of large datasets generated by molecular dynamics and Monte Carlo simulations of macromolecules.
  - ◇ Mentored undergraduate and graduate research assistants on projects related to molecular coarse-graining schemes and simulation data analysis.
  - ◇ Conducted supplemental instruction in programming, linear algebra, statistics, and differential equations for graduate and undergraduate research assistants.
  - ◇ Provided academic advising for undergraduate research assistants.
- **Library Student Assistant** Sep 2017 - Jun 2022  
University of Oregon Eugene, OR
  - ◇ Provided group tutoring and private tutoring for library patrons in math and science subjects including: elementary algebra, probability, statistics, discrete math, calculus, differential equations, linear algebra, partial differential equations, chemistry, and physics.
  - ◇ Engaged in team efforts to improve the quality of tutoring services provided.

- ◊ Trained library student employees on techniques for tutoring elementary and advanced mathematical topics and concepts.
- ◊ Trained library student employees on library systems software and the Library of Congress Classification system.
- ◊ Assisted library patrons with use of library services and systems.

## VOLUNTEER WORK

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- **Volunteer Teaching Assistant** Sep 2021 - Mar 2022  
 Eugene Math Circle Eugene, OR
  - ◊ Taught elementary school children advanced topics in math and logic.
  - ◊ Led and supervised discussions and games related to mathematical concepts and reasoning.
- **Camp Counselor** Jul 2016  
 Dharma Rain Zen Center Portland, OR
  - ◊ Supervised children aged 10-18 for a week long overnight summer camp.
  - ◊ Led discussions and activities related to mindfulness, meditation, and concepts from Buddhist philosophy.

## TECHNICAL SKILLS

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- **Workplace Tools:** Microsoft Office (Teams, Outlook, Excel, etc.), Zoom, Slack, Discord, Github/Gitlab, L<sup>A</sup>T<sub>E</sub>X
- **Programming Languages:** Python, Fortran, R, Shell scripting (Unix/Linux/macOS)

## AWARDS AND HONORS

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- Departmental Honors in Physics (Undergraduate)
- Latin Honors, Cum Laude (Undergraduate)
- Phi Beta Kappa Honors Society