Julia Meilan Jess

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ABOUT ME

Meilan Jess is a prospective Applied Math graduate of 2023 with an area of emphasis in Quantum Engineering at the University of Colorado, Boulder. She is actively pursuing an Accelerated Master's in Applied Math.

EDUCATION

M.S. in Applied Mathematics
University of Colorado, Boulder
May 2024

B.S. in Applied Mathematics
University of Colorado, Boulder
May 2023

LINKS

github
linkedin
Lab

HONORS & AWARDS

2023 - Engineering Honors Program

TECHNICAL SKILLS

- Python
- QuTip
- Matlab

EXPERIENCE

University of Colorado, Boulder - Research Assistant — Feb 2022 - Present
- Utilized QuTip to conduct analysis on Nonlinear Hamiltonians in Quantum Sensing under the supervision of Josh Combes.
- Mathematically investigated quantum dynamics and optics with theoretical motivation and synthesized results for corresponding Lab Group (NIST).

Mathnasium - Mathematics Instructor — June 2021 - June 2022
- Provided guided mathematical instruction for children in K-12.
- Tutored in advanced high school mathematics courses and developed additional curriculum for advanced algebra and pre-calculus.
- Collaborated with supervisor and colleagues to develop comprehensive learning plans for incoming students.

BOLD - University of Colorado, Boulder - Student Intern — Feb 2021 - Feb 2022
- Operated in customer service and student support.
- Organized data for diversity focused research centered on local University retention.

Colorado Event Traffic - Independent Contractor — May 2021 - Sep 2021
- Extended volunteer-work conducted through Vaccination Equity Pop Up clinics (COVID-19).
- Aided events for concerts, Triathlon races, and Pop Up Clinics.

PERSONAL PROJECTS

Vaccinate Colorado Project — 2021
- Created social media procedure to de-stigmatize vaccines while volunteering at pop up clinics.
- Networked with city government officials and local doctors while providing support for COVID-19 vaccination clinics.

Mackey Glass Equation Analysis — 2021
- Examined applications of mathematical chaos derived from the mackey glass equation to study platelet production.
- Utilized fixed point analysis and Python to study hopf bifurcations and stability of platelet production via Mackey Glass Equation.
- Aligned analysis with coursework in Chaos in Dynamical Systems.

Gender Bias in STEM — 2021
- Led a series of discussion based interviews with students, post doctorates, and grad students at the University of Colorado, Boulder to investigate prevalent gender biases in STEM.
- Produced a coursework guided paper.

VOLUNTEERING

Engineers Without Borders - Chapter Secretary — Jan 2021 - Jan 2022
- Active board member of Engineers Without Borders Chapter at CU, Boulder.
- Sent Newsletters and kept track of meetings for chapter wide updates.

COVID-19 Vaccination Equity Pop Up Clinic - Misc — Feb 2021 - May 2021
- Consistenly volunteered in equity clinics constructed by Colorado Event Traffic, Aurora Council Members Juan Marcano and Alison Coombs and local providers Dr Alakh and Dr Fetzko.
- Assisted in registration and vaccine set up and aided first responders at vaccine stations.
- Engaged in side project through coursework at the University of Colorado, Boulder to eliminate public vaccine stigma.