

EDUCATION

University of Minnesota
College of Science and
Engineering

B.S. in Mathematics
Expected Graduation: May 2027

University of Hawai'i at Mānoa
National Student Exchange
Fall 2026

TECHNICAL & RESEARCH
SKILLS

Computational

Python, React, Arduino, Google
Colab, Excel, GraphPad Prism,
Rfdiffusion

Laboratory

Mammalian cell culture, cytotoxicity
assays, organic synthesis and
product characterization; extraction,
recrystallization, distillation, filtration,
TLC and column chromatography;
IR/NMR spectroscopy

Quantitative & Research

Experimental data analysis,
normalization and visualization;
proof-based mathematical analysis

RELEVANT COURSEWORK

Mathematics

Numerical Analysis, Topology, Real
Analysis, Abstract Algebra, Applied
Linear Algebra, Mathematical Logic,
Theory of Probability and Statistics

Science

Genetics, Molecular Biology,
Organic Chemistry I, Organic
Chemistry II, Organic Chemistry
Laboratory

AWARDS

National Honorable Mention & State
Winner (2023)
H. & C. Christofferson Mathematics
Undergraduate Scholarship

RESEARCH & ACADEMIC EXPERIENCE

Institut Pasteur — Brain-Immune Communication Lab Sep 2027
Proposed Research Placement

- Invited to study how choroid plexus macrophages contribute to brain development, with planned work using single-cell transcriptomics, imaging, animal models, and behavioral analysis.

Undergraduate Researcher Oct 2025 – Apr 2026
UMN Morianity Lab

- Performed mammalian cell culture and supported cytotoxicity assays, including experimental data collection and analysis.
- Studied computational protein design through Rfdiffusion readings and hands-on work in Google Colab; explored ProteinMPNN for sequence design and AlphaFold for structure prediction.

Directed Reading Program

Fourier Series and Convergence Oct 2024 – Dec 2024

- Independently studied Fourier series and convergence through weekly discussions of proofs and theorems with a graduate student mentor.
- Presented the semester's work to faculty and peers.

ADDITIONAL EXPERIENCE

Independent Project

Protein Dynamics Analysis Sep 2026 – Present

- Using Python to analyze an existing protein molecular-dynamics trajectory, comparing principal component analysis (PCA) with interdomain distance measurements to characterize protein conformational changes.

Black Data Processing Association (BDPA)

Johnson & Johnson Robotics Competition Jun 2023 – Aug 2023

- Programmed an Arduino-controlled robotic arm using multiple sensors for coordinated movement and color detection.
- Placed third in a competition alongside undergraduate and graduate teams.

Engineering Analyst Intern, Securian Financial Jun 2022 – Aug 2022

- Implemented a client timeout feature that reset integrated and non-integrated user sessions after four hours of inactivity.
- Refactored legacy React code into a clearer, more readable method.

Community-University Health Care Center

Patient Engagement Specialist Apr 2026 – Aug 2026

- Explained clinic procedures and available resources to diverse patient populations and maintained confidential patient documentation.