

Susan L. Hoops

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EDUCATION

Doctor of Philosophy, Computer Science (GPA 4.00)

Expected 2024

Master of Science, Computer Science (GPA 4.00)

Feb 2023

University of Minnesota-Twin Cities

Minneapolis, MN

Bachelor of Arts, Mathematics (GPA 3.57)

May 2017

St. Olaf College

Northfield, MN

WORK EXPERIENCE

Graduate Researcher

Sep 2020 - Present

University of Minnesota-Twin Cities | Advised by Dr. Dan Knights

Minneapolis, MN

- Directed metagenomic analysis (Python, R) and data management (SQL) for clinical studies totaling 6,000+ samples.
- Created a machine learning pipeline with 12% improved performance tracking bacteria in microbial transfer therapy.
- Diagnosed dimensionality reduction anomalies in multivariate datasets, improving model accuracy by 28%.
- Advised 7 researchers and assisted in teaching courses covering machine learning, genomics, and Python.

Data Scientist / Researcher 2

Sep 2018 - Aug 2020

University of Minnesota-Twin Cities | Computer Science & Engineering

Minneapolis, MN

- Developed statistical workflows in R and Python for disseminating gut microbiome findings in longitudinal studies.
- Collaborated with interdisciplinary teams of physicians, clinical researchers, community members, and scientists.

Fulbrighter

Sep 2017 - June 2018

Fulbright U.S. Program | Advised by Dr. Marc Streit

Linz, Austria

- Visualized GitHub version control system as a graph in Python and D3.js to represent computational optimization.
- Taught English in a local secondary school and completed courses for the Technical Mathematics M.S. at JKU Linz.

Data Science Intern

May 2017 - Aug 2017

CoreBiome | Diversigen

Saint Paul, MN

- Automated custom microbiome analysis software (Python, D3.js) on AWS using the EC2 cloud and S3 storage.

SKILLS

Programming: Python, R, SQL, C++, GitHub, Linux, MATLAB, LaTeX, D3.js, HTML, CSS

Data Handling: AWS storage (S3), AWS computing (EC2), Relational databases (RedCAP), HPC cluster computing

Data Analysis: Hypothesis testing, Machine Learning, Bayesian statistics, Deep Learning (PyTorch, TensorFlow, SciKit)

Languages: English (native), German (conversational), American Sign Language (beginner)

LEADERSHIP & OUTREACH

Board Member, Fulbright Association of Minnesota

July 2019 - July 2022

Director of Finance, Council of Graduate Students, University of Minnesota-Twin Cities

July 2020 - July 2021

President, Habitat for Humanity, St. Olaf College

Sep 2015 - May 2017

Captain, Women's Cross Country and Track & Field, St. Olaf College

Sep 2015 - May 2017

AWARDS

Honorable Mention, *NSF Graduate Research Fellowship Program* (2021)

Fulbright Combined Award, *Fulbright Association* (2017)

Program Director of the Year, *St. Olaf College Leadership Awards* (2016)