JACKSON KREBSBACH

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EDUCATION

Hope College *May 2024*
B.S. in Mathematics
Concentration in Statistics
Overall GAP: 3.97

Highlighted Coursework Statistics for Data Science, Advanced Linear Algebra, Real Analysis, Numerical Analysis, Introduction to Probability Algebraic Structures, Databases for Data Science, Software Design & Implementation, Computer- Aided Design, Introduction to Mathematical Physics, Physics Lab: Electronics, Biomedical Instrumentation

EXPERIENCE

Undergraduate Researcher May 2019 - Present
Hope College Mathematics & Statistics Department *Holland, MI*

- Main work consists of using machine learning and unmanned aerial systems to map surface composition in Lake Michigan sand dunes
- Conducted field work, flying drones to capture multi-spectral imagery and acquiring ground-based photography at Saugatuck Harbor Natural Area, Pigeons Creek,
- Performed big data analysis in R and Python, training machine learning algorithms.
- Gave numerous talks and presented several posters at Join Mathematics Meetings, Geological Society Association Meeting, Pi Mu Epsilon Meetings, Hope College colloquium, and Mathfest

Teaching Assistant January 2024 - Present
Hope College *Holland, MI*

- Assisting students in lab and course material for accelerated statistics (219)
- Graded lab assignments completed in R

Accenture Student Consultant January 2024 - Present
Hope College Center for Leadership *Holland, MI*

- Student consultant project for Accenture IT company including
- Research and ranking of the Top 3-5 SC Analytics Platforms including a comparative analysis
- Demystifying the Gen AI vs traditional AI components

REZA Inc. May 2019 - Present
Co-Founder *Detroit, MI*

- Co-created REZA INC., a VC backed light-up footwear brand dedicated to inspiring people to 'Light Your Own Path'
- Completed residency at Techstars Sports Accelerator Powered by Indy (2020)
- Sourced components and completed shoe development in Taiwan (Nov 2020 – Apr 2021, March 2023 – June 2023)
- Sold over 2,000 pairs and acquired wait list of 70K+

Ford Motor Company June 2022 - August 2022
Internship *Dearborn, MI*

- Worked as an intern under the software product development division

- End to end data pipeline sourced from features in vehicles to create data visualizations using SQL, Python, Putty, Amplitude.
- Created a clinic to evaluate the digital owner's manual found in the entertainment system in the Ford F150 Lightning
- Presented recommendations to executives based on insights gained from study

Software Developer July 2023 - September 2023
Contractor *Remote*

- Served as a React Native developer for venture capital backed stealth media start-up
- Assisted and interviewed candidates for full time roles
- Worked with a team consisting of one backend developer and two front end engineers
- Technologies: Firebase, React Native, Test Flight

Mathematics and Computer Science Tutor August 2019 - May 2020
Hope College Academic Success Centre *Holland, MI*

- Hired as a tutor for the Software Design & Implementation CS course using Java
- Led group of four students through the Fall semester assisting in course material and projects
- Worked in the Hope College Math Lab for lower and upper-level mathematics courses in the Fall
- Provided mathematical guidance to students on an individual and group basis in help sessions.

Youth Ambassador to the Philippines July 2016 - April 2017
Yes Abroad *Biñan, Philippines*

- High-school exchange student in the Philippines supported by the Yes-Abroad Kennedey-Luger Scholarship program
- Lived with a Filipino family for a period 10-months
- Studied at Jacabo national high school and University of Perpetual Help

TECHNICAL STRENGTHS

Computer Languages	R, Python, Jupyter, MATLAB, JavaScript, Typescript, Java, HTML, SCSS, CSS
Technologies & Frameworks	Git, Vim, Linux, SQL, QGIS, Node.js, React, Next.js, React Native, RStudio, Jupyter, Autodesk Inventor, Agisoft Metashape Vercel, Google Analytics, Shopify,

SELECTED PRESENTATIONS

- Krebsbach, J., (Yurk, B. P., Mentor), Joint Mathematics Meeting, Talk, "Mapping Plant Populations Using Drones and Machine Learning", San Francisco, CA. (January 4, 2024)
- Krebsbach, J., (Yurk, B. P., Mentor), 48th Annual Pi Mu Epsilon Conference, Talk, "Mapping Vegetation in Lake Michigan Dunes with XGBoost", Miami, OH. (September 29, 2023)
- Krebsbach, J., Yurk, B. P., DeVries-Zimmerman, S. J., Pearson, P., Hansen, E. C. International Conference on Aeolian Research, Poster. "Mapping vegetation in Lake Michigan sand dunes using unoccupied aerial systems and machine learning," Las Cruces, NM. (July 13, 2023)
- Krebsbach, J., Yurk, B. P. Mathfest, 2021, Talk, "Modeling Vegetation Density," Online. (August, 5, 2021)
- Krebsbach, J. (Yurk, B. P., Mentor). Midstates Consortium for Math and Science Undergraduate Research Symposium, Talk, "Dunes & Drones: Using machine learning to map vegetation with drone- and ground-based photography," Online. (November 7, 2020)
- Krebsbach, J., Yurk, B. P. Joint Mathematics Meeting, Poster, "Mapping dune vegetation using drones, ground photography, and machine learning," Denver, CO. (January 17, 2020).

- Krebsbach, J., Yurk, B. P., Pearson, P. T., Stid, J., Hansen, E. C. Geological Society of America Annual Meeting, Poster, "Vegetation and Topography Mapping of Coastal Dune Complexes Using Small Unmanned Aerial Systems and Ground-Based Imagery," Phoenix, AZ. (September 22, 2019)
- Krebsbach, J., (Yurk, B. P., Mentor), PME Mathfest, Talk, "Dunes and drones: A machine learning approach to mapping dune vegetation using small unmanned aerial systems and ground based photography, Cincinnati, OH. (August 1st, 2019)

PUBLICATIONS IN PREPARATION

Krebsbach, J., Yurk, B. P., DeVries-Zimmerman, S. J., Pearson, P., Hansen, E. C. "Mapping vegetation in Lake Michigan sand dunes using unoccupied aerial systems and machine learning" In Preparation

GRANTS

- Pi Mu Epsilon Travel Grant, 2024 Joint Mathematics Meetings, $1200
- Krebsbach, J., "Using Machine Learning and Drones to Estimate Vegetation Density in Coastal Sand Dunes," $3,000. (May 10, 2020 - April 30, 2021). Funded by the National Aeronautics and Space Administration (NASA), under award number 80NSSC20M0124, Michigan Space Grant Consortium (MSGC)
- American Mathematical Society Travel Grant, 2020 Joint Mathematics Meetings, $400