Jack Krebsbach

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EXPERIENCE

Co-Founder *REZA INC.*

MAY 2019 – PRESENT

- Co-founder of 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)
- Acquired waitlist of 70K+

Undergraduate Researcher *Hope College Mathematics & Geology Department*

MAY 2019 – PRESENT

- Used machine learning & drones to map vegetation density in Lake Michigan sand dunes
- Conducted field work flying drones and performed big data analysis of imagery using R and Python
- Presentations: (extended list second page) Joint Math Meetings, Geological Society Association Meeting, Mathfest, PME meetings (2019, 2020, 2021, 2023)

Ford Motor Company *Internship*

SUMMER 2022

- 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 *Mobile App Development*

JULY 2023 – SEP 2023

- React Native developer for stealth social media start up
- Worked with a team consisting of one backend developer and two front end engineers.
- Technologies: Firebase, React Native, Test Flight

Math & CS Tutor *Hope College Mathematics & Computer Science Department*

AUG 2019 – MAY 2020

- Tutored for lower and upper-level math courses, and for a Software Design & Implementation CS course using Java
- Provided mathematical guidance to students on an individual and group basis

ABOUT

I am a senior studying Mathematics with a concentration in Statistics at Hope College in Holland, MI. I use data analysis and statistical learning methods to solve problems. I also enjoy learning about software development.

SKILLS

Programming Languages

R, Python, MATLAB, JavaScript, Typescript, Java, HTML, SCSS, CSS

Technologies & Frameworks

Git, Vim, Linux, SQL, QGIS, Node.js, React, Next.js, React Native, Vercel, Google Analytics, Shopify, RStudio, Jupyter, Autodesk Inventor, Agisoft Metashape

EDUCATION

Hope College *B.S. Mathematics – Statistics Concentration*

2018-2020, 2021-2022, 2023-PRESENT

- Expected Graduation: May 2024
- Cumulative GPA: 3.97

Highlighted Coursework

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

AWARDS & HONORS

- Pi Mu Epsilon Outstanding Speaker Award at JMM (2024)
- Erik Aasen Scholarship (2022)
- Michigan Space Grant Consortium Undergraduate Fellowship (2020)
- John H. Kleinheksel Mathematics Award (2019)
- Hope College Presidential Scholarship
- Pi Mu Epsilon Mathematics Honor Society (2019)
- Kennedy-Lugar Yes Abroad State Department Scholarship (2016)

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 PREPERATION

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.