# Kirby Hermansen

khermansen@proton.me
(952) 992-9893

## EDUCATION

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**Michigan State University**                                                      East Lansing, MI

Ph.D in Physics; Grad. Cert. in High-Performance Computing                          Exp. Aug 2023
Tentative Thesis: Total Absorption Spectroscopy of A=57 Neutron-rich Nuclei

**University of Notre Dame**                                                        Notre Dame, IN

B.S. in Physics, Economics                                                          May 2015

## RESEARCH EXPERIENCE

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**National Superconducting Cyclotron Laboratory (NSCL/FRIB)**                       East Lansing, MI

2017–         *Research Assistant*                                                 PI: Hendrik Schatz

- Analyze experimental data to constrain beta-decay transitions in select neutron-rich nuclei
- First author on a sensitivity study of nuclear reaction rates in core-collapse supernovae
- Contributed to 10 NSF-funded experiments and ongoing detector systems commissioning
- Lead guided public tours of the cyclotron facility

2018–         *SECAR Beam Development*                                              PI: Fernando Montes

- Built a machine-learning pipeline for optimizing magnet settings in the SECAR separator
- Ported the pipeline to Microsoft Azure resources as a 2021 ICER Cloud Computing Fellow
- Optimized results have been employed in an NSF-funded experiment

2017–2018     *Teaching Assistant*

- Taught 2 semesters of undergraduate physics laboratory

**European Organization for Nuclear Research (CERN)**                              Geneva, Switzerland

2014          *Research Assistant*                                       PIs: Diego Tonelli, Lorenzo Moneta

- Analyzed lifetime ratios and kinematic variables to better determine B-meson lifetimes
- Developed elements of the ROOT/R interface library, later distributed in ROOT

**Nuclear Science Laboratory (NSL)**                                                Notre Dame, IN

2013–2015     *Research Assistant*                                                  PI: Philippe Colon

- Created an experimental process for radiocarbon dating using accelerator mass spectrometry

## PROFESSIONAL EXPERIENCE

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**Travelers Insurance Fixed Income Investments**                                   Saint Paul, MN

2015–2017     *Senior Associate Quantitative Analyst*

- Assessed return attribution on a $30 billion municipal bond portfolio
- Modeled asset/liability matching to minimize portfolio systematic and curve risk

## SKILLS

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**Computer:**      Azure, Linux, MS Office, SharePoint, LaTeX, Access
**Programming:**   *Proficient*: ROOT, Python, R, C++, VBA, SQL; *Familiar*: HTML, JavaScript
**Language:**      *Basic*: French, Spanish