Emma J. Reid

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Education	**P.h.D, Applied Mathematics** (Aug 2021)	**GPA: 3.7/4.0**
	Purdue University	

B.S. Mathematics (May 2015)   **GPA: 3.81/4.0**
University of Nebraska - Lincoln

Academic Positions

Purdue University — West Lafayette, IN
Research Assistant — August 2017 - August 2021
- Worked in tandem with the Mathematics and Electrical Engineering departments in researching methods in fluorescence microscopy and applications to neural networks.

Purdue University — West Lafayette, IN
Teaching Assistant — August 2015 - August 2017
- Instructed for Calculus I and II, Applied Calculus, and Differential Equations.
- Wrote quizzes and exams for the various courses, in addition to working in the help room.

University of Nebraska - Lincoln — Lincoln, NE
Undergraduate Coordinator of All Girls All Math — March 2015 - August 2015
- Planned 2 week-long summer camps for girls interested in mathematics.
- Served as a teaching assistant for a cryptography course, covering such topics as modular arithmetic and RSA.

University of Nebraska - Lincoln — Lincoln, NE
Undergraduate Learning Assistant — January 2014 - May 2015
- Assist in teaching college algebra curriculum to undergraduate students.
- Work collaboratively with a graduate instructor to develop strategies to improve the course.

University of Nebraska - Lincoln — Lincoln, NE
Athletic Tutor — January 2013 - May 2015
- Worked with student athletes to deepen their understanding of coursework.
- Completed CRLA's International Tutor Training Program Certification to become a Certified Tutor, Level 1.

Professional Experience

Oak Ridge National Laboratory — Oak Ridge, TN
Associate R&D Staff Member — Aug 2021 - present

- Collaborate with group members to research problems relevant to national security.
- Present results and theoretical implications to sponsors monthly.

Autonomy Technology Research Center — Fairborn, OH
ATR Center Summer Program Intern — May 2020 - Aug. 2020

- Continued development of algorithmic and deep learning strategies to accomplish super resolution on general microscopy images.

Autonomy Technology Research Center — Fairborn, OH
ATR Center Summer Program Intern — May 2019 - Aug. 2019

- Developed algorithmic and deep learning strategies to accomplish super resolution on bacterial biofilms.
- Collaborated with multiple branches of the Air Force Research Lab to fuse methodologies from biology and electrical engineering.

NASA Langley Research Center   Hampton, VA
Langley Aerospace Research Student Scholars Program   June 2014 - Aug. 2014

- Continued research from 2013, specifically towards model validation and verification.
- Performed error estimation of the National Transonic Facility test section temperature map using experimental test data.

NASA Langley Research Center   Hampton, VA
Langley Aerospace Research Student Scholars Program   June 2013 - Aug. 2013

- Developed methodology for multi-fidelity data fusion for use in the National Transonic Facility during model testing and tunnel characterization.
- Developed a composite temperature profile map to predict the state of the test section temperature distribution.

Academic Honors

- Best Graduate Presentation at ATRC Summer Review   Summer 2020
- PEO Indiana Chapter Nominee for the PEO Scholar Award   Selected Fall 2019
- Best Graduate Poster at ATRC Summer Review   Summer 2019
- Accepted to Purdue's Computational Interdisciplinary Graduate Program   Spring 2019
- Received the Excellence in Teaching Award from the Department of Mathematics   Fall 2018
- PEO Indiana Chapter Nominee for the PEO Scholar Award   Selected Fall 2018
- Mervin L. Keedy Scholarship (Purdue)   Awarded Spring 2015
- Regents Scholarship (UNL)   Awarded Fall 2011
- D & F Eastmann Scholarship (UNL)   Awarded Fall 2013
- Dean's List, College of Arts & Sciences (UNL)   Fall 2012 - Spring 2015

Publications

- In Preparation:
  Multi-Resolution Data Fusion for Super Resolution Imaging of Biological Materials

Presentations

- Invited speaker at Oak Ridge National Lab seminar   March 2021
- Invited speaker at the Air Force Research Lab's MachIne
  And Computational Learning Exploration (MIrACLE) seminar   February 2021
- Invited speaker at Argonne National Lab seminar   February 2021
- Accepted as a Presenter for the 2021 Electronic Imaging Conference   Winter 2020
- Accepted as a Presenter for the 2020 SIAM Conference on Imaging Science   Summer 2020
- Invited speaker at Air Force Research Lab's biweekly Bio-RT meeting   Winter 2019
- Accepted as a Presenter for the 2020 Electronic Imaging Conference   Winter 2019

Leadership and Involvement

- Reviewer for IEEE Transactions on Image Processing   Summer 2019 - present
- Graduate Student Representative for College of Science Grade Appeals   Fall 2019 - present
- Department Senator in Purdue Graduate Student Government   Fall 2018 - Spring 2019
- Graduate Representative for the Purdue Department of Mathematics   Fall 2017 - Spring 2018
- Pi Mu Epsilon - Nebraska Alpha Chapter, President   Fall 2014 - Spring 2015
- Math Club - President   Fall 2014 - Spring 2015
- American Institute of Aeronautics and Astronautics,   Fall 2012 - Spring 2015
  Student Chapter Member
- Alpha Delta Pi Sorority - Executive Committee Member   Fall 2014

Skills   Programming Languages: Python, MATLAB, Julia, C, LaTeX