

**Education:**

MS in Applied Physics (Optical Materials and Devices), University of Oregon. Expected Sept. 2018

BA in Physics, University of Minnesota-Morris, Morris MN. 2017

**Research Experiences:**

Intern, Army Research Laboratory (ARL), Adelphi MD June-Aug 2016

Raman Analysis of Ceramic Er-doped  $Y_2O_3/MgO$  Nanocomposites

- Designed unique mounting and conduction components for a cryofridge using SolidWorks to model a new thermoconductivity setup
- Adapted quickly to role changes when machine shop gave quote to be longer than the internship
- Characterized samples from collaborators with fluorescence and Raman spectroscopy, and fluorescence lifetime measurements to determine a better laser gain material
- Analyzed Raman spectroscopy data to determine potential correlations related to different ratios of  $Y_2O_3$  to MgO or calcination temperatures by determining Raman peak positions and widths
- Presented analysis at ARL poster session, August 2016

Researcher, University of Minnesota-Morris, Morris MN May-Oct 2015

Construction of a low-cost LIDAR for cirrus cloud observations

- Designed a pulsed laser containing timing and amplifying circuits with LTSpiceIV to determine ideal parameters and compared them to experimental results
- Fabricated PCBs by designing circuits in KICAD, transferring them to copper boards in a dark room, etching the circuits with solutions, drilling vias, and soldering components
- Presented progress at American Physical Society poster session, Baltimore MD, March 2016

**Projects:**

Digital Display Garden, Software Development class, Morris MN Jan-May 2017

- Developed software for West Central Research Outreach Center (WCROC) horticulturalists to gather data about visitor paths and garden preferences in order to improve visitor experience
- Created features to enter system by QR codes, multiple navigation systems, leave feedback about individual flowers, importing/exporting data, uploading selective photos and more
  - Programming Languages: Java, HTML, CSS, TypeScript, JavaScript
  - Tools utilized: MongoDB, Angular 2, Spark, Gradle, Jasmine and Karma.
- Implemented Agile techniques, which required group communication to meet all expectations
- Presented team's final product to the WCROC board and they decided to continue its production

**Work Experiences:**

Shift Lead, Pizza Ranch, Morris MN 2014-2017

- Positions held included front-end specialist, cook, coordinator, shift lead, and trainer all while prioritizing given tasks
- Verified orders were accurate in a fast paced environment
- Increased quality of communication in a professional manner with staff and customers leading to fewer mistakes

**Hobbies and Interests:**

- Clarinetist for 12 years, which improved perseverance to master college level solos
- Improved attention to detail by drawing still lifes, cross-stitching, and crocheting
- Received most improved award twice in tennis by working with teammates to accomplish goals and not giving up when faced against strong players