

# Kyle Solowiej Hawkins

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## Work Experience

**Airy Optics Inc.** - Senior Optical Engineer **September 2022 - Present** (Tucson, AZ)

- Developed and integrated polarization based scattering algorithms, integrated Scatmech routines into a ray trace.
- Biaxial and Uniaxial coating modeling and analysis
- Pancake lens/VR system model set up and analysis, and polarized stray light modeling

**Arete Associates** - Optical Systems Engineer (II) **August 2018 – September 2022** (Tucson, AZ)

- Assembled and tested multispectral imaging systems (MSI) for the COBRA program
- Prototyped a multispectral stokes imaging polarimeter - designed filters and image processing routines to extract the stokes parameters from raw image data
- CMOS sensor alignment, testing and characterization

**Airy Optics Inc.** - Algorithm Scientist **May 2016 – Present**(Tucson, AZ)

- Developed and image simulation software to model the effect of dichroic dyes on polarized images
- Modeled/analyzed optical systems during engineering service projects with Polaris-M, interferometers, compound retarders, depolarizers etc.
- Taught classes to Polaris-M customers on using the software for optical analysis

**Zemax LLC.** - Optical Engineering Intern **June 2015 - August 2015** (Kirkland, WA)

- Wrote Macros (high-level set of commands to retrieve data not available in the Zemax GUI) for tolerancing extended aspheric surfaces
- Performed study on the optical performance of Extended Aspheric during optimization • Authored informative articles on Polarization for the Zemax Knowledge Base

**University of Arizona** - Undergraduate Research Assistant/U of A Think Tank **August 2013 – May 2016** (Tucson, AZ)

- Updated webserver (Node.js) for remote access to optical polarization ray tracing software
- Created computer generated graphics to describe polarization phenomena
- Led supplemental review sessions for the Electricity and Magnetism course PHYS 241
- Tutored students in calculus I, calculus II and algebra math classes - Certified Level 1 Tutor

## Education

**Institution:** University of Arizona, Honors College (August 2012- May 2016)

**Dual Major:** Optical Sciences and Engineering (B.S.), Applied Mathematics (B.S.)

**Graduate Coursework (In Progress):** University of Arizona, Wyant College of Optical Sciences (Masters degree - Thesis Track)

**IBM Thomas J. Watson Memorial Scholarship:** Merit scholarship for academic excellence

## Technical Experience

**Programming Languages:** Python, MATLAB, Mathematica, JavaScript

**Optical Analysis Software:** Zemax, CodeV, Polaris-M

**Development Tools:** SVN, Eclipse, Git, GitHub