**Kyle Solowiej Hawkins**

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Find out more about me at: [ksolohawk.com](https://khawkins8683.github.io/PersonalWeb.io/)

# Work Experience

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

* Developed and integrated polarization ray tracing algorithms for Polaris-M ray tracing software
* Modeled/analyzed optical systems during engineering service projects with Polaris-M, interferometers, compound retarders, depolarizers etc.
* Built an image simulation program to model the effects of dichroic dies on polarized images
* Supervised two software development interns (quality control and documentation)
* Administrated the Polaris-M source code repository
* 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 ([[link to article](https://customers.zemax.com/os/resources/learn/knowledgebase/investigating-zemax-opticstudio-s-polarization-fea)](https://customers.zemax.com/os/resources/learn/knowledgebase/investigating-zemax-opticstudio-s-polarization-fea))

**College of Optical Sciences -** Undergraduate Research Assistant **April 2014 – May 2016** (Tucson, AZ)

* Updated webserver (Node.js) for remote access to optical polarization ray tracing software
* Wrote Thin Film Optimization software in Mathematica
* Created computer generated graphics to describe polarization phenomena

**U of A Think Tank -** Supplemental Instructor & Tutor **August 2013 – August 2015**  (Tucson, AZ)

* Led supplemental review sessions for the Electricity and Magnetism course PHYS 241
* Observed and mentored new coworkers as they began to facilitate their own instructional sessions
* Became lead instructor, directed session planning and interfaced with PHYS 241 professors
* 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 Course Work (non-degree seeking):** ten (10) units, three (3) classes, one (1) lab: Polarization in Optical Design, Polarimetry, Electromagnetic Waves, and Polarization Lab

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

## Technical Experience

**Programming Languages:** Python, MATLAB, IDL, Mathematica, JavaScript: Professional and academic experience in modeling everything from sand dunes to light

**Web Client Side:** HTML, CSS, JQuery, Pug, SVG graphics

**Web Server-Side Development:** npm, Node.js, Express, JSON

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

**Databases**: MongoDB, MySQL

**Development Tools:** SVN, Eclipse, Git, GitHub (see: [my GitHub](https://github.com/khawkins8683/))

**Microsoft Office:** Excel, Word, PowerPoint