Kyle Solowiej Hawkins | 1644 E. Mitchell St | Tucson, AZ 85719
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To whom it may concern,

I am interested in work related to optical engineering and mathematical modeling. I have a background in applied math, optical system analysis, and polarization. After graduating from the University of Arizona, I used my modelling and analysis skills in the engineering industry at a small start-up company (Airy Optics Inc.) that wrote specialized ray tracing software.

My greatest strength as an engineer is my understanding of the basics. I emphasized studying core mathematical, physical, and optical principles in college, and as a professional I am successful because I can apply my knowledge of the basics to complicated situations. This allows me to understand the systems and problems I am working on at a fundamental level.

My key skills, which include scripting software, experience with optical design programs like, Polaris-M (Airy Optics Inc.) and Optic Studio (Zemax LLC) are combined with effective communication and hard work.

I believe that I could make significant contributions to a technical team. I look forward to talking more in depth about any available positions and how my qualifications will match up with the company's goals and interests.

Kyle Solowiej Hawkins

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Find out more about me at: ksolohawk.com

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)

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)