

OBJECTIVE

To make cities more livable, sustainable, efficient, and enjoyable by developing better software and mapping tools and data-driven urban planning and management methodologies.

EXPERIENCE

Esri, Redlands, CA www.esri.com

Product Engineer, ArcGIS Network Analyst development team, August 2012 – present

- Participated in design meetings, wrote design documents, and performed usability testing for user experience and interface design of Network Analyst in ArcGIS Pro
- Worked with developers by identifying bugs and testing bug fixes
- Wrote and maintained regression tests, unit tests, CodedUI tests, and checklist tests
- Increased the speed of our python regression test runs from 20 hours to 4-5 hours by implementing multiprocessing and making code improvements
- Developed a set of tools for adding GTFS public transit schedule data to a network dataset, opening the door for many new kinds of analysis
- Developed a methodology for analyzing public transit accessibility in urban areas and published a study of supermarket accessibility using this methodology
 - *Farber, S., Morang, M. Z., & Widener, M. J. (2014). Temporal variability in transit-based accessibility to supermarkets. Applied Geography, 53, 149–159.*
- Developed several other python geoprocessing tools for analyzing, displaying, and editing GTFS data in ArcGIS
- Started and managed an interdepartmental working group for increasing our software's public transit analysis capabilities
- Wrote software documentation
- Presented technical workshops and demo theaters at the Esri International User Conference

Redlands Community Orchestra, Redlands, CA www.redlandscommunityorchestra.org

Founder (March 2013), **Board President** (2013-2016), and **Bassoonist** (2013 – present)

- Founded a 55-member all-volunteer amateur-level orchestra that rehearses weekly and performs three concerts per year
- Lead the board of directors in orchestra operations, such as rehearsal and concert logistics, publicity, fundraising, and music acquisition and copying
- Obtained official 501(c)(3) federal nonprofit status for the organization
- Performed with the orchestra as a bassoonist and provided musical leadership to the woodwind section
- Represented the orchestra in the Redlands Arts Consortium Council
- Started and managed the Composition Project, an initiative to rehearse and perform new works by local composers

Internships and former positions

- **Prevention Research Center, University of Michigan School of Public Health**, Ann Arbor, MI, May – July 2012. Geocoded and analyzed crime data from Flint, MI
- **Graduate Student Instructor, University of Michigan Geology Department and College of Engineering**, September 2009 – May 2012. Taught labs and discussion sections, developed course materials, and graded student work for undergraduate courses in geology and engineering
- **Dexter Community Orchestra**, Dexter, MI – September 2008 – May 2012. Played bassoon in the orchestra and improved the orchestra's administrative structure as personnel manager, board member-at-large, board vice-president, and board president
- **Pinchot Institute for Conservation**, Washington, DC, June – August 2011. Supported the Common Waters Fund with GIS analysis of forest cover and site suitability

- **Michigan Tech Research Institute**, Ann Arbor, MI, May – August 2010. Studied Great Lakes water quality using satellite imagery and ArcGIS
- **University of Michigan Transportation Research Institute**, Ann Arbor, MI, May – August 2009. Simulated highway traffic flows and edited reports and grant proposals

EDUCATION

M.U.P. Urban Planning with a specialization in Transportation Planning, April 2012

M.S. Natural Resources & Environment with a specialization in Sustainable Systems, April 2012

University of Michigan, Ann Arbor, MI

Taubman College of Architecture & Urban Planning and School of Natural Resources & Environment

- Master's Project: The Detroit Sustainable Urban Neighborhood (SUN) Project, educating Detroit residents on how to save energy and water in their homes: <http://detroit.sunproject.weebly.com/>

M.S. Physics, April 2009

University of Michigan, Ann Arbor, MI

B.A. Physics, with Honors, June 2008

University of Chicago, Chicago, IL

- Honors thesis: Shower Reconstruction Algorithms for the VERITAS Gamma Ray Telescopes

Continuing education non-degree coursework, 2014 – present

Oregon State E-campus and Coursera

- Online courses in discrete structures, analysis of algorithms, human-centered design, and data science

SKILLS

ArcGIS, python, geoprocessing, regression testing, CodedUI testing, unit testing, checklist testing, needfinding, rapid prototyping, agile development (Scrum), GitHub, C#/.NET, writing design documents, writing documentation, tech support, Spanish, nonprofit management, bassoon playing and reed-making, figuring things out, getting stuff done, attention to detail