RESUME
Kim H. Sundeen

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CAREER OBJECTIVES

To research, plan, implement, & direct novel GIS systems, applications, and services to improve the mapping effectiveness and experience of any GIS user or non-GIS user's with understanding spatial information for personal or work projects.

EDUCATION

University of WI-Madison, WI

Master of Science: Geographic Information Systems/Cartography—Web Map Programming

Anticipated Completion: Summer 2018

Continuing Education

Programming

Ongoing - SQL Server Database, PHP, HTML, CSS, JavaScript, & JQuery self-taught training completed online using *W3schools.com*, *KhanAcademy.org*, & *Lynda.com*

2015 - Pennsylvania State's online self-paced course, GEOG 585, "Open Web Mapping"

2015 & 2016 - WLIA Annual Conf. 4-hour workshop: "Advanced Python"& "Python Classes"

2015 – Annual Conf. MN GIS/LIS 4-hour workshops: "ArcGIS for Javascript API"

2015 – Annual Conf. MN GIS/LIS 4-hour workshops: "Using Geoprocessing Services with the ArcGIS Javascript API"

2014 & 2016 - WLIA Annual Conf. 4-hour workshop: "Introduction to Python for ArcGIS 10.x"

2013 - eGIS Associates' "Introduction to the ArcGIS Javascript API Online," & "Introduction to OpenLayers," (3 days)

ArcGIS for Server & SDE Geodatabase Management

2013 - Esri's "ArcGIS for Server: Site Configuration & Administration," (3 days);

2013 - Esri's "ArcGIS for Server: Sharing GIS Content on the Web," (2 days)

2013 - Esri's "Configuring & Managing the Multiuser Geodatabase," (3 days)

University of WI-Madison, WI

Graduate Certificate: Geographic Information Systems   **Aug. 2012; 3.9/4.0 GPA**
Internship Focus: Spatial prediction of mercury concentration in the Great Lakes drainage basins from stream water quality data & remotely-sensed leaf area index as input for climate hydrologic models using Python & R languages.

Master of Science: Conservation Biology & Sustainable Development   **December, 2011; 3.4/4.0 GPA**
Thesis: Using R to model and predict sandhill crane & power line collision risk in agricultural-wetland landscapes in WI.

Bachelor of Science: Wildlife Ecology, **Certificate: Environmental Studies**   **May, 2006; 3.2/4.0 GPA**

WORK EXPERIENCE

GIS Programmer Analyst, *GIS & Facility Operations, MN Power, Duluth, MN*   **(April 2016-Present)**
Coordinated dev. & test Web AppBuilder installations; documented workflows for designing & publishing custom Survey123, Arc Collector, and WebMaps; trained staff on using Model Builder, Python, & ArcGIS Online with existing utility editing, work order, & field tools systems.

GIS Specialist, *City of Duluth, Engineering Division, Duluth, MN*   **(Feb. 2015-April 2016)**
Coordinated full lifecycle software & database development for mapping & web data-entry applications with Python & ArcGIS Online. Managed editing, training, and metadata tools for versioned SQL Server SDE database editing practices.

GIS Specialist, *Bad River Tribe, Natural Resources Dept., Odanah, WI*   **(Oct 2012-Feb. 2015)**
Organized & designed GIS data in databases for all depts., planned & published data-entry webmaps, & updated tribal website.

Sr. Natural Resources Research Scientist, *WI Dept. of Natural Resources, Madison, WI*   **(May 2012-Oct 2012)**
Analyzed & organized water quality data for input into linear regression models using Python, ArcGIS & opensource GIS & mapping tools.

Web/GIS Technician, *State Cartographer's Office, University of WI-Madison: Madison, WI*   **(May 2012-Oct 2012)**
Customized Python scripts & add-ins to create natural basemaps of WI & updating the Cartographer's website.

GIS Project Assistant, *School of Nursing, University of WI-Madison: Madison, WI*   **(Jan. 2010-Oct 2012)**
Developed Python algorithms to compare water quality interpolated data related to how map readers perceived their water quality risk.

Biologist/GIS Specialist—Student Temp. Ed. Program, *US Geological Survey, Madison, WI*   **(Oct. 2011-May 2012)**
Entered & evaluated data in one of the largest vector spatial SQL Server databases with the USFWS' National Wetlands Inventory.

PROJECT & PERSONNEL MANAGEMENT

Full Cycle Project Development & Implementation: Coordinated GIS User Needs Assessment & Implementation Plans for 19 projects for software development, database development/improvements, training, & website improvements for City of Duluth IT Dept. & Public Works & Utilities Dept beginning in 2015.

Training: Taught introductory Python, JavaScript, GPS & GIS sessions for small group workshops on: (1) using new mapping & GPS programs (2) testing software including ArcGIS Desktop & opensource QGIS, (3) setting up development environments for Python & JavaScript, (4) process for updating website front ends, & (5) GIS user needs assessments.

Staff Supervision: Oversaw & trained student GIS technicians on GIS data entry procedures for UW Nursing School mapping projects & LTE staff for short-term land ownership projects with the Bad River Tribe.

Grant Writing: Received several grants to fund M.Sc. research & provide professional development: **$10,000** from the *Animal Welfare Institute (2010)*; Additional **$1,025** from research organizations for mapping (2010-2011); **$5,200** from *ESRI for ArcMap online training through the Conservation Grant Program (2012);* **$127,000** from *the Federal Emergency Management Agency Pre-Disaster Mitigation Program.*

GIS Data Security: Implemented new ArcGIS Server security protocol for publishing GIS services online; Researched & re-wrote external & internal data-sharing agreements & policies for the Bad River Tribe.

DATA MANAGEMENT & PROGRAMMING KNOWLEDGE

Database & Data Structures Management:
- Awarded a **$127,000** grant from the FEMA Pre-Disaster Mitigation Program for planning & implementing a web-enabled database to deliver interactive webmaps & identify natural disaster risks for community planning meetings.
- Implemented new ArcGIS Server & published GIS secured web services for the Bad River Tribe; Expanded existing GIS map services to multiuser, versioned online feature editing & Python-built geoprocessing services for City of Duluth.
- Managed multiuser editing in ArcGIS 10.x SDE databases-2008/2013 Microsoft SQL Server for Tribe & City since 2012.

Programming:
- Created Python routines to download & extract ArcGIS Online data & images from a Survey123 app & export to a PDF with hyperlinked images and a summary of data from multiple related tables within a geodabase.
- Developed Python-based geoprocessing services to take web entry to update the SQL Server database & ArcGIS Server.
- Script opensource & ArcGIS programs to manipulate, re-write, or edit raster & vector data for use in GIS analysis & remote sensing apps (batch-processing image enhancements & transforms, & radiometric/atmospheric correction).
- Used spatial statistics & mapping programming modules in R to develop regression algorithms for predicting mercury in watersheds for drainage basins from water quality data & remotely-sensed leaf area index (LAI).

Web Development:
- Developed, tested, trained staff, & implemented customized GIS services & geoprocessing tools through ArcGIS Server for mobile data entry & data-transfer through ArcGIS Online webmaps for the Tribe, City of Duluth, & MN Power.
- Added new HTML/CSS pages for reorganizing the Bad River Tribal Natural Resources webpage to host both secured & public Google, Esri JavaScript API, ArcGIS Online, & GeoMoose OpenLayers webmaps: www.badriver-nsn.gov/tribal-operations/natural-resources/gis-maps

SOFTWARE

Databases: Microsoft (SQL Server 2008/2013, SQL Server Express, & MS Access), Oracle, ArcSDE & PostgreSQL
GIS/GPS: ArcGIS 9.3-10.3.1., ArcGIS Pro, QGIS 1.6-2.16, Google Earth, ArcPad 7.1 & 10.2, Terrasync 5.6, & Pathfinder Office 5.4
Statistics/Remote Sensing: ENVI, IDRISI, R, SPSS, Systat, S-PLUS, OpenEV, Opticks
Programming: HTML, CSS, JavaScript, Python (Arcpy, OGR, GDAL, & modules)
Code Versioning: TortoiseShell SVN, Github
Presentation/Design: Adobe Illustrator & Photoshop 2015.5; & Microsoft 7 & 10 OS Office, Prezi, Slides.com, reveal.js
Project Management: Agile Methodoogy-Scrum framework in Basecamp, MindManager, Freedcamp, Windows OneNote
Web Content Management Systems: Joomla, Druple, WordPress, Bluehost

VOLUNTEER POSITIONS

MN GIS/LIS Conference Planning Team: *St. Paul, MN*	Member; Workshop Planning Committee	2015-Present
WI Land Information Association: *Madison, WI*	Board Member; Chair Membership Committee	2014-Present
National Tribal Geog. Info. Support Center: *Albuquerque, NM*	Publications Committee Member	2013-2014

PERSONAL INTERESTS

Geocaching, Birding, Canoeing, Skiing, Piano, Jazz music, Singing Phantom of the Opera songs
Please see my website https://ksundeen.github.io