Kim H. Sundeen

GIS Developer and Project Coordinator

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SUMMARY

Kim has 11 years of extensive experience planning and implementing progressive GIS solutions using a variety of software programs including ArcGIS Enterprise and QGIS that focus on improving the end-user's experience. Kim's background includes database management (SQL Server, Oracle, Postgresql) and customizing desktop, mobile, and web GIS solutions using configuration and agile scrum software development (Python, JavaScript, ArcGIS Web APIs). She has deep technical and industry knowledge in utility and engineering practices, remote sensing, environmental sciences, mobile applications, and government services. She has managed numerous internal data collections applications for field surveys, asset management systems, data migrations, and integrations between IT and GIS systems. Kim serves on and has served on professional GIS boards and committees (Director of Women Who Code-Duluth, Fond du Lac Geospatial Technologies Advisory Committee, WI Land Information Association, Tribal GIS), leading GIS workshops, and is active in the GIS community.

PROFESSIONAL EXPERIENCE

Lake Superior Consulting
GIS Developer, May, 2017—Current

RAMTeCH Software Solutions, Inc.
GIS Analyst/Developer, Feb 2017 – May, 2017

GIS & Facility Operations, MN Power
GIS Programmer Analyst, April, 2016—April, 2017

City of Duluth, Engineering Division
GIS Specialist, Jan., 2015—April, 2016

Bad River Tribe, Natural Resources Dept.
GIS Specialist, Oct, 2012 – Jan., 2015

School of Nursing, University of WI, Madison
Graduate Student GIS Project Assistant, 2010 - 2012

International Crane Foundation
GIS Field Ecology Researcher, 2007 - 2010

PROJECT EXPERIENCE

Web Map App Development & Implementation: Planned and developed custom ArcGIS web mapping applications for Lake Superior Consulting engineering web viewers, Bad River Tribal Ownership and Lease Viewer (ArcGIS Flex Viewer and SDE database), City of Duluth Street Update Viewer (ArcGIS Web App Builder and SDE database), and MN Power's Electric Utility Asset Identification (ArcGIS JavaScript API and Web AppBuilder Developer's Edition and SDE database), Biking Route Finder (Google Maps API and Postgresql database).

ArcGIS Service Publishing Automation: Developed configuration-driven python solution for other clients to quickly publish 20-40 GIS web services between different development/staging/production environments through ArcMap into ArcGIS Server 10.6. This process saved 3-4 hours of manual error-prone service publishing. Created ArcGIS add-ins and published REST geoprocessing tools into ArcGIS Server to simplify City of Duluth's street and pavement updates for users.

GIS Data Migration for Gas UPDM New Utility Network: Lead agile software development and project planning for client and consultant teams to customize python-plsql oracle database migration solutions to handle ETL from 5 source databases to one unified model. Managed multiple Esri alpha/beta software releases for changes in the new Utility Network model.

GIS Workflow & Process Improvement: Coordinated GIS feasibility study to user-interaction news and new tool development to develop clear tool requirements for Lake Superior Consulting GIS tool development. Documented workflows for engineering staff at City of Duluth to identify areas for improvement. Learned established GIS data entry policies.

Full Cycle Project Development & Implementation: Coordinated GIS user needs assessment & implementation plans for 19 projects for software development, database development and improvements, training, and website enhancements for City of Duluth IT Dept. & Public Works & Utilities Dept. Priorities were used to direct funding to most important projects.

Training: Taught introductory Python, JavaScript, GPS & GIS sessions for small group workshops on: (1) using new mapping & GPS programs (2) configuring and testing 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 and trained student GIS technicians on GIS data entry procedures for UW Nursing School mapping projects and LTE staff for short-term land ownership projects with the Bad River Tribe. Managed remote teams for software development and database configuration using agile project management with RAMTeCH.

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

EDUCATION AND PROFESSIONAL DEVELOPMENT

University of West Georgia, College of Science and Mathematics
Master of Science: Applied Computer Science, (Anticipated Completion: 2021)

University of Wisconsin, Madison, WI
Ongoing Graduate Studies in GIS Web Map Programming (Master of Science student, 2017-2018)
Graduate Certificate: Geographic Information Systems, 2012
Master of Science: Conservation Biology and Sustainable Development, 2011
Bachelor of Science: Wildlife Ecology, Certificate: Environmental Studies, 2006

Certification
Certified Geographic Information Systems Professional (GISP) #84940

AREAS OF EXPERTISE
- Database Design/Structures *(Microsoft SQL Server, 11g/12c Oracle, PostgreSQL, MySQL, MS Access, Excel)*
- Server Side/Desktop Programming *(Python, C# .NET, SQL/PLSQL)*
- ArcGIS Enterprise stack *(installed and helped configured ArcGIS Server, Web Adapter, ArcSDE to spatially-enable enterprise databases, Portal, Data store)*
- Mapping APIs *(ArcGIS for JavaScript, Leaflet, Mapbox, Google Maps, OpenLayers)*
- Web Development *(HTML5, CSS, JavaScript frameworks, PHP)*
- GIS/GPS/Mobile Apps *(ArcGIS 9.3-10.6, ArcGIS Pro 2.x, QGIS, Google Earth KML, Garmin, ArcPad, Terrasync, & Pathfinder Office, Survey123, ArcGIS for Collector, Web AppBuilder Developer Edition, ArcGIS Online)*
- Project Management/Lead Agile as Scrum Master on 2 projects
- Code Versioning *(Git, Github, Hg Mercurial, TortoiseSVN)*
- Presentation and Graphic Design *(workshops, training, presentations, lectures, and posters)*
- Technical and scientific writing for blogs, case studies, and grants (e.g., awarded a $127,000 FEMA grant)

SELECTED PUBLICATIONS, WORKSHOPS, AND PRESENTATIONS
- Sundeen, K.H. (2018). "Kick-starting your Own Kickstarter Tech Project. Duluth .NET User's Group, Nov., 2018.

- Sundeen, K.H. (2018). "Sharing Code, Maps, and Data Science Through a Digital Jupyter Notebook, Duluth, .NET User's Group, June, 2018.
- Sundeen, K.H. (2018). "Exploring the Utility Network in ArcGIS Pro." MN GIS/LIS Pre-Conference Workshop, Oct.
- Sundeen, K.H. (2017). "Exploring the Utility Network in ArcGIS Pro." MN GIS/LIS Pre-Conference Workshop, Oct.
- Sundeen, K.H. (2017). "Esri's Utility Pipeline Data Model (UPDM) and Utility Network in Network Management Basics." Utility Industry Forum Posting, Sept.
- Sundeen, K.H., et al. (2017). Early Adopters of the Gas Utility Network: Are You the Tortoise or the Hare? Esri's GeoConX Conference, Sept.
- Sundeen, K.H. (2016). "Designing a Long-Term GIS Vision & Implementation Plan." Minnesota GIS/LIS Pre-Conference Workshop, Oct.
- Sundeen, K.H. (2016). "Simplifying Metadata Editing for the Non-Programmer." Northern MN GIS User Group, April.
- Sundeen, K.H. (2015). "Bringing Free & Open Source GIS to India Country." Wisconsin Land Information Association, Feb.