Alexander C. Michels

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🎓 Education

Ph.D. in Spatial Informatics **June 2019 - Present**
University of Illinois at Urbana-Champaign

M.S. in Geography and G.I.S. **August 2020 - Present**
University of Illinois at Urbana-Champaign

B.S. in Mathematics and Financial Economics **August 2015 - May 2019**
Westminster College

💼 Experience

CyberGIS and CyberInfrastructure Researcher 📍 Champaign, IL
CyberGIS Center and CyberInfrastructure & Geospatial Information Laboratory (CIGI) *June 2019-Present*

– Lead development of multiple cyberinfrastructure projects including a Hadoop cluster and CyberGISX/CJW.
– Developed and published multiple spatial models for educational and research purposes.

Data Scientist and Informatics Reseacher 📍 Los Angeles, CA
Institute for Pure and Applied Mathematics at UCLA & Praedicat, Inc. *June 2018 -August 2018*

– Worked for Praedicat, Inc. automating information extraction, classification, and aggregation from web data for business profiling of over 52,600 companies and corporate entities.
– Worked for IPAM to develop a novel algorithm for computational fact-checking on knowledge graphs and a self-supervised machine learning algorithm for sentence importance which outperformed TF-IDF.

Systems Administrator and Software Engineer 📍 New Wilmington, PA
Titan Radio and WCN 24/7 *May 2018 - May 2019*

– Responsible for the technology and infrastructure required to keep the radio and television station operating.

Information Technology Intern 📍 New Castle, PA
Treloar & Heisel *September 2018 - December 2018*

– Maintained databases and wrote applications for company use in Java, Python, and Visual Basic.

🎗 Projects

CyberGISX/CyberGIS-Jupyter for Water (CJW) 🖥 https://cybergisxhub.cigi.illinois.edu/

- Platform for reproducible spatial data science using JupyterHub on DockerSwarm and Kubernetes
- Redesigned CJW to use modules for software management and developed a version using K8s on Openstack

WhereCOVID-19 🖥 https://wherecovid19.cigi.illinois.edu/

- Dashboard for displaying up-to-date COVID-19 statistics.
- Wrote the pipeline to calculate spatial accessibility to medical resources. DOI: 10.1186/s12942-020-00229-x

⚙ Skills

📈 **Data Science:** Big Data, G.I.S., Git, Machine Learning, Parallel Programming, Network Science

</> **Languages:** Python, Bash, C++, R, SQL

▤ **Technologies:** Docker, Hadoop (HDFS/Spark/Yarn), Kubernetes, OpenStack, Terraform

🖥 **Operating Systems:** Linux, Windows