Alexander C. Michels

📞 +1 (716) 753 0414
✉ michels9@illinois.edu
🌐 alexandermichels.github.io
🐙 github.com/alexandermichels

🎓 Education

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

Westminster College   📍 New Wilmington, PA
Bachelor of Science in Mathematics and Financial Economics   *August 2015 - May 2019*

– Minor in Computer Science — Honors in Computer Science and Math — 3.7 GPA

💼 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.

⚙ Skills

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

</> **Languages:** Python (& Cython), Bash, C++, Java, R

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

🖥 **Operating Systems:** Linux (esp. Mint & Ubuntu), Windows

🎗 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 integrated with Hydroshare: http://go.illinois.edu/cjw-k8s

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