Alexander C. Michels

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EDUCATION

Ph.D. in Spatial Informatics   **In Progress**
University of Illinois at Urbana-Champaign

M.S. in Geography and G.I.S.   **In Progress**
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 & Geospatial Information Laboratory (CIGI)   *June 2019-Present*
– Presented research across multiple journals and conferences.
– Hiring for student researcher, post-doc, and research programmer positions.
– Lead software developer on CyberGIS-Compute leading a team of undergraduates.
– Created a JupyterHub deployment on OpenStack using Terraform and Kubernetes.
– Managed mulitple Docker and DockerSwarm-based applications on Linux VMs.

Systems Administrator and Software Engineer   New Wilmington, PA
Titan Radio and WCN 24/7   *May 2018 - May 2019*
– Responsible for the infrastructure required to keep the radio and television station operating.

Information Technology Intern   New Castle, PA
Treloar & Heisel   *Sept 2018 - Dec 2018*
– Maintained databases and wrote apps for company use in Java, Python, and Visual Basic.

Data Scientist and Informatics Reseacher   Los Angeles, CA
Institute for Pure and Applied Mathematics at UCLA & Praedicat, Inc.   *June 2018 - Aug 2018*
– Built and deployed toolkit in Python to gain business insights from unstructured web data.

PROJECTS

CyberGIS-Compute   **cybergis.github.io/cybergis-compute-python-sdk**
– Typescript server and Python SDK for reproducible, sharable science on HPC resources.
– Lead developer managing multiple students working on the Core and SDK.

CyberGIS-Jupyter   **cybergisxhub.cigi.illinois.edu**
– Platform for reproducible science using JupyterHub on DockerSwarm and Kubernetes.
– Redesigned to use Easybuild, Lmod & CVMFS and developed version using K8s on Openstack.

WhereCOVID-19   **wherecovid19.cigi.illinois.edu**
– Wrote Bash/Python pipeline for access to medical resources. DOI: 10.1186/s12942-020-00229-x

SKILLS

Data Science: Big Data, G.I.S., Network Science, Git, ML/AI, Parallel Programming

Languages: Python, Bash, SQL (Postgres, PostGIS, pgRouting), Javascript, C++, R

Technologies: Ansible, Docker, Hadoop, Kubernetes, OpenStack, Terraform

Operating Systems: Linux (Debian/Ubuntu, CentOS/Scientific), Windows