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🎓 Education

University of Illinois at Urbana-Champaign

Ph.D. in Informatics

Westminster College

Bachelor of Science in Mathematics and Financial Economics

– Minor in Computer Science — Honors in Computer Science and Math — Graduated Cum Laude — 3.7 GPA

📍 Champaign, IL

June 2019-Present

📍 New Wilmington, PA

August 2015 - May 2019

📁 Experience

CyberGIS and CyberInfrastructure Researcher

CyberGIS Center and CyberInfrastructure & Geospatial Information Laboratory (CIGI)

📍 Champaign, IL

June 2019-Present

- Work for the “Algorithm & Systems” and “Spatial Modeling” teams where I administrate cyberinfrastructure and develop spatial models.
- Redesigned **CyberGISX** to run on Kubernetes allowing for scalability and rewrote images to use shared software directories to improve efficiency.
- Developed Docker-based Hadoop cluster for educational and research applications.
- Wrote and published multiple spatial models for educational and research purposes.

Data Scientist and Informatics Researcher

Institute for Pure and Applied Mathematics at UCLA & Praedicat, Inc.

📍 Los Angeles, CA

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

Titan Radio and WCN 24/7

📍 New Wilmington, PA

May 2018 - May 2019

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

Information Technology Intern

Treloar & Heisel

📍 New Castle, PA

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, Java, C++, R

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

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

🔗 Projects

CyberGISX

📄 <https://cybergisxhub.cigi.illinois.edu/>

- Platform for reproducible spatial data science using JupyterHub on DockerSwarm and Kubernetes
- Developed 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](https://doi.org/10.1186/s12942-020-00229-x)