# MICHAEL T. MOEN

St. Louis, MO ◇ moenmichael02@gmail.com ◇ (636) 633-3173 ◇ LinkedIn ◇ GitHub ◇ mtmoen.com

## EDUCATION

**The University of Alabama**                                                      December 2025
*M.S. in Applied Statistics* - 3.6 GPA                                                *Tuscaloosa, AL*

**The University of Alabama**                                                      December 2025
*Honors B.S. in Computer Science & Mathematics* - 3.9 GPA                              *Tuscaloosa, AL*
National Merit Scholarship Recipient (5 years full tuition, 4 years housing + stipend)

## EXPERIENCE

**The University of Alabama Libraries**                                        January 2023 - Present
*Data Science and Informatics Assistant*                                              *Tuscaloosa, AL*
- Provide software development and data analysis assistance for researchers and librarians at the University of Alabama.
- Create websites, coding tutorials, and workshops to facilitate open access to the library's web resources (see Projects for examples).
- Assist students and researchers with coding issues in C, C++, Python, Java, HTML/CSS, and other languages.

**Northrop Grumman**                                                        June 2024 - August 2024
*Cyber Software Engineering Intern*                                                 *San Antonio, TX*
- Automated the installation and updating of applications on 20+ Windows workstations on an air-gapped network by writing an Ansible playbook and PowerShell script, saving roughly 90 hours of manual updates per month.
- Drafted a white paper for a Docker infrastructure to securely process a file by multiple containers, minimizing data transfer costs.
- Configured a persistent SMB mount with Kerberos authentication in Red Hat Enterprise Linux.

**National Geospatial-Intelligence Agency**                                  June 2023 - August 2023
*Software Engineering Intern*                                                          *St. Louis, MO*
- Cleaned Jira backlog of 2400+ tickets using Python, eliminating 100+ duplicate items and creating visualizations of the data.
- Redesigned a Confluence website, creating a more user-friendly design and adding the ability to search and view files in browser.
- Automated an accounting procedure using Microsoft Excel, saving about 5 hours of manual work per month.

## PROJECTS

**University Libraries Scholarly API Cookbook | Website | GitHub**              January 2023 - Present
*Python (Matplotlib, NumPy, Pandas, GeoPandas), Github Pages, GIS*       *The University of Alabama Libraries*
- Published 15+ tutorials detailing how to access and analyze data from REST APIs for the University of Alabama Libraries.
- Reviewed tutorials written by other student writers and proactively sought out new APIs to expand the site's coverage.
- Developed 3 tutorials covering GIS APIs involving geocoding, reverse geocoding, map features, and street networks.

**CEO Pay Ratio Database Website | Website**                                    March 2024 - May 2024
*JavaScript, Python (Pandas, Flask, Plotly), HTML, CSS*                  *The University of Alabama Libraries*
- Developed a web application using a Flask backend written in Python and a frontend written with JavaScript, HTML, and CSS.
- Managed frequent communications with the dataset's manager and suggested several features implemented in the final version.

**Penny: An AI Chatbot Assistant for Saving Money**                                       March 2024
*Python (Flask, Plotly)*
- Created an application utilizing the OpenAI API to advise customers how to reduce spending based on their transaction history.
- Won 1st place out of ten teams in the Fintech category at the UA Innovate Hackathon, winning the $1000 grand prize.

## SKILLS

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|---|---|
| **Languages** | Python, C++, C, JavaScript, R, HTML/CSS, SQL, LaTeX, Java, Bash, PowerShell |
| **Tools** | Git/GitHub, Linux (Ubuntu, Red Hat), Docker, Jira, Confluence, Microsoft Excel, SAS Visual Analytics |
| **Statistics** | Hypothesis Testing, Linear/Multilinear/Logistic Regression, Decision Trees, Neural Networks, Visualization |
| **Development** | Object-Oriented Programming, Data Analysis, Data Visualization, Full-Stack Web Development, Software Development, Geographic Information Systems (GIS), Agile Methodologies (Kanban, Scrum) |