Micah D. Cochran

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Work

IT Services Student Worker,   September 2021-present
> University of Alabama at Birmingham, Computer Science Department

Teaching Assistant,   September 2022-December 2022
> University of Alabama at Birmingham, Computer Science Department
> for the class CS 221 Web Development

Independent Geospatial Services Contractor,   August 2021-June 2022
> Redraw voting districts based on 2020 Census

GIS (Geographic Information Systems) Coordinator/Administrator,   February 2005 – August 2021
> City of Athens, Engineering Services & Community Development Dept.
> P.O. Box 1089, Athens, AL 35612 USA

> Accomplishments: Migrated many maps from paper to online interactive maps. Migrated applications from paper to electronic PDFs. Moved site plan review to digital review and moved to digital document signing. Served a City liaison to FEMA during declared disasters in 2011 and 2014. Contracted three aerial photography flights with a multi-department/agency Consortium based on 100% consensus for all projects.

> Regular duties included reviewing civil plans based on city regulations and communicating with developers about regulations; maintaining Geospatial data, creating and maintaining cartography derived from the data, and distribution of GIS data to other parties.

Education

University of Alabama at Birmingham,   August 2021-present
> 4.0 GPA   (graduation anticipated April 2023)
> Graduate Student pursuing Master of Science (MS) Degree in Computer Science

University of North Alabama (Florence, Alabama, USA),   December 2004
> BA Geography (concentration in Geographic Information Systems)
>> Minor in Computer Science

Certificate in Geographic Information Systems from University of North Alabama,   December 2004.

Technical Skills

> Language: Python 2.7 & 3.x+, C, Java, JavaScript, Racket
> Framework: Flask
> Database: MongoDB
> Operating Systems: Linux (multiple distributions) / Windows
> Tool: git / GitHub / GitLab, Visual Studio Code, Docker, Amazon Web Services, pandoc
> GIS Software: ArcGIS Desktop, QGIS

Projects

> (see my website for detailed write-ups)

Zoning Ordinance Question Answering   October to December 2022

Team project to create a system that answers natural language questions about Zoning Ordinance laws. The Question Answering System created SPARQL queries based on the question and executed those queries on a Knowledge Graph to get an answer. A Knowledge graph was created for Zoning Ordinance laws.

Legal Text Website   June to August 2022

Scrape the Constitution of Alabama and create website that presents legal codes in a more usable website format. Features of this website were display legal text, searching, section links, and a users registration system. Technologies used in this project include, Python, Flask, and MongoDB.

Agricultural Drone Dashboard   October 2021 to December 2021

Led a four person team to build a software that did agricultural drone scanning. The software simulated a flight on the screen and also flew a physical drone. My team explored the software development process with use cases, state charts, and implementing the software in Java and JavaFX. This was the final project for the CS 520 Software Engineering class.

recipe-crawler   June 2021 to present

A web crawler for recipes in HTML https://schema.org/Recipe (Microdata/JSON-LD), which output cookbooks in JSON format. scrape-schema-recipe library (below) is used to parse most of the HTML. The intended use for the cookbooks is to be a test suite for recipe software. I programmed the software and maintain of the repository.

request_builder.py   2020 to August 2021

Command line software that generates agendas and notices using Word Document templates from applicant requests. The requests were made by applicants submit a PDF application. The Python software generates agendas and public notices using templates tailored to City of Athens processes and messaging.

Programmer and user of this software.

scrape-schema-recipe   2018 to present

Scrapes recipes from HTML https://schema.org/Recipe (Microdata/JSON-LD) into Python dictionaries. This is an open source library that allows others to use this to build software from this tool. I programmed the software and maintain of the repository.

pyproj   2016 to 2019

Python library for cartographic projection and spatial transformation. It is a wrapper for PROJ C library using Cython to interface between the C library and the Python.

Provided support for end users (programmers), wrote documentation, contributed fixes, wrote unit tests, reviewed user contributions, and merged contributions.

GIS Maps   2004 - 2022

18 years of creating and maintaining GIS data and cartographic products.

Notable Coursework

CS 532 – Systems Programming
CS 662 – Natural Language Processing
CS 633 – Cloud Computing

CS 520 – Software Engineering
CS 621 – Advance Web Application Development
CS 652 – Advanced Algorithms and Data Structures

General Skills

- ◆ maintaining and creating website content
- ◆ phone and email customer service for the general public and internal employees
- ◆ designing maps, posters, pamphlets, and forms for use by internal and external audiences and the general public
- ◆ procuring services through an RFI/RFP process
- ◆ reviewing documents for regulatory compliance
- ◆ training general public over the phone and in person to use online maps
- ◆ IT troubleshooting Level 1

IT Certificates

CompTIA A+ certified – July 2020 ([digitally verify](#))
- Description: computer diagnostics, support basic IT infrastructure, networking, security, data backup and recovery

Other Activities

Athens Pride Coalition
Co-Founder, 2016–Mar. 2020
Mentor for youth (ages 14-18) support group for gender and sexual minorities 2018–Mar. 2020.
Cooked home cooked meal for the youth and the support staff. Provided guidance for the youth.

I enjoy riding bicycles, and training to eventually want to do long distance bikepacking.