

# Micah D. Cochran

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## Work

IT Services Student Worker, September 2021-April 2023

University of Alabama at Birmingham, Computer Science Department, Birmingham, Alabama

Teaching Assistant, September 2022-December 2022

University of Alabama at Birmingham, Computer Science Department, Birmingham, Alabama  
for the class CS 221 Web Development

Independent Geospatial Services Contractor, August 2021-June 2022

Self-Employed  
Redrew voting districts based on 2020 Census

GIS (Geographic Information Systems) Coordinator/Administrator, February 2005 – August 2021

[City of Athens](#), Alabama, Engineering Services & Community Development Dept.  
P.O. Box 1089, Athens, AL 35612 USA

Accomplishments: Migrated many maps from paper to online interactive maps. Programmed a Python script that automated routine GIS data requests reducing the processing time by 1 hour; a script that created a combined municipal limits layer from multiple GIS source; and software which would use PDF applications to create agendas and notices. 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 for a multi-department/agency Consortium.

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**, Birmingham, AL

M.S. Computer Science  
August 2021 – April 2023  
GPA: 4.0

**University of North Alabama**, Florence, AL

B.A. Geography, Minor: Computer Science  
August 2001 – December 2004

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

## Technical Skills

Language: Python 2.7 & 3.x+, C, Shell [bash|fish], Java, JavaScript, Racket  
Database: MongoDB

Technology: Flask, RDF, SPARQL, SQL  
Operating Systems: Linux (multiple distributions) / Windows  
IDEs: Visual Studio Code, PyCharm (IntelliJ), Eclipse, Jupyter Notebook  
Tool: git / GitHub / GitLab, Visual Studio Code, Docker, Amazon Web Services, pandoc  
GIS Software: ESRI ArcGIS Desktop, QGIS

## Projects

### [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. The 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 PDF applications. The Python software used the PDF input to generates agendas and public notices filling in the templates. Templates were 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.

Programmer and maintain the software 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.

A Python ETL script to combine GIS data of municipal limits from four (4) different sources. The data had two (2) projections and four (4) schemas. The script was to create one layer with one projection and one schema. The result was a single layer of municipal limits that covered Limestone County, AL.

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

## 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 Certificate

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.

Recently, I rediscovered my enjoyment of listening to Heavy Metal music.