Micah D. Cochran

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Work

IT Student Worker,   September 2021-April 2023

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

Installed and updated software on lab computers. Set up lab computers for PhD students. Took inventory of computers and phones. Created diagrams and publications. Performed basic computer diagnostics. Collaborating with coworkers about network updates needing to be made in the Graduate Lab.

Approximately 20 hours per week.   Schedule was set at start of semester based on course load, usually I worked at time between M-F 7 am – 5 pm.

Teaching Assistant,   September 2022-December 2022

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

For the class CS 221 Web Development, covered topics HTML5, CSS, and JavaScript. Held labs and office hours to help students with assignments. Graded student assignments. Coordinated with the professor.

10 hours per week. Wed. 10 am – 12 pm, 4 pm – 7 pm, Fri. 10 am – 1 pm, 4 pm – 6 pm

Geospatial Services Contractor,   August 2021-June 2022
Self-Employed

Redrew voting districts based on 2020 Census.

Approximately 4 hours per week. Contracted, schedule was my own choosing.

GIS Administrator/Coordinator,   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 as 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, advising customers about how they could modify their plans to comply with local development laws, creating and maintaining Geospatial data, creating and maintaining cartography derived from the data, and distribution of GIS data to other parties.

40 hours per week, M-F 8:00 am – 4:30 pm

Education

University of Alabama at Birmingham, Birmingham, AL

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

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, MPI, OpenMP, RDF, SPARQL, SQL
> Operating Systems: Linux (multiple distributions) / Windows
> IDEs: Visual Studio Code, PyCharm, 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. The software answered natural language questions about Zoning Ordinance laws. One approach used a Knowledge Graph Question Answering System. The Question Answering System recognized the question matched it to a template, found key words, and filled the key words into slots in the SPARQL query. The queries were executed on a Zoning Ordinance Knowledge Graph to obtain the answer. The project was for the CS 662 Natural Language Processing class.

[Legal Text Website]   June to August 2022

> Present legal codes in a more usable website. Scraped the Constitution of Alabama using the BeautifulSoup library. Features of this website were displaying legal text, searching, section links, and a user 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 that built software for 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 (PDF files). The Python software used the PDF form data to fill templates of agendas and public notices. 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 the PROJ C library using Cython to interface between the C library and the Python. At that point, the project was maintaining a single codebase that would work on Python 2.7 and 3.x.

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

[combined_municipal_limits_geoprocessing](#)   2014 to 2016

A Python ETL script to combine GIS municipal limit data of 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.

[GIS Maps](#)   2004 to 2022

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)
  - Set up organizational structure. Held adult socials. Promoted group.
- **Mentor** (2018–Mar. 2020)

- - Served as a mentor for a youth support group (14-18 years old) of gender and sexual minorities from diverse backgrounds in Athens, Alabama.
  - Cooked home cooked meal for the youth and the support staff.

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