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WORK EXPERIENCE

IT Student Worker

Sep. 2021–Apr. 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. Collaborated with coworkers about network updates to the Graduate Lab.

Teaching Assistant

Sep. 2022–Dec. 2022

University of Alabama at Birmingham, [Computer Science Department](#), Birmingham, Alabama

- Assisted the class CS 221 Web Development, which covered topics HTML, CSS, and JavaScript.
- Held labs and office hours to help students with assignments.
- Graded student assignments.
- Coordinated with the professor on assignments and grading.

Geospatial Services Contractor

Aug. 2021–Jun. 2022

Self-Employed

Redrew voting districts based on 2020 Census.

GIS Administrator/Coordinator

Feb. 2005–Aug. 2021

[City of Athens](#), Alabama, Engineering Services & Community Development Dept., Athens, Alabama

Accomplishments

- Created a Python script that automated routine GIS (Geographic Information Systems) data requests reducing the processing time by 1 hour;
- programmed a Python (ETL) script that created a combined municipal limits layer from multiple GIS source;
- and created Python software to build agendas and notices from PDF forms submitted by clients.
- Migrated applications from paper to electronic PDFs.
- Migrated many maps from paper to online interactive maps.
- Moved site plan review to digital review and moved to digital document signing.
- Served as liaison to FEMA during declared disasters in 2011 and 2014.
- Led a multi-department/agency GIS Consortium that contracted three aerial photography flights and Web GIS services.

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.

EDUCATION

M.S. Computer Science – University of Alabama at Birmingham

4.0 GPA

Aug. 2021–Apr. 2023, Birmingham, Alabama

[digitally verify](#) (CeDiD: 23YV-U4XM-MWNN, First two letters of name: MI)

B.A. Geography – University of North Alabama

Aug. 2001–Dec. 2004, Florence, Alabama

Minor: Computer Science

Geographic Information Systems Certificate – University of North Alabama

Dec. 2004, Florence, Alabama

TECHNICAL SKILLS

Language: Python, C, Shell [bash | fish], Java, JavaScript, Racket

Database Storage: MongoDB, RDF, SQLite

Technology: Flask, MPI, OpenMP, 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](#)

Oct. 2022–Dec. 2022

The software answered natural language questions about Zoning Ordinance laws. The Question Answering System recognized the question matched it to a template, finds key words, and puts key words into the identified SPARQL query. The queries are executed on a Zoning Ordinance Knowledge Graph to obtain the answer. Team project for CS 662 Natural Language Processing.

[Legal Text Website](#)

June 2022–Aug. 2022

Present legal codes in a more usable website. Scraped the Constitution of Alabama using the BeautifulSoup library. Technologies used were Python, Flask, and MongoDB.

[Agricultural Drone Dashboard](#)

Oct. 2021–Dec. 2021

Led a four person team that built software for agricultural drone scanning. The software simulated a flight on the screen and flew a physical drone. The team explored the software design

and software development process with use cases, state charts, and implemented the software in Java and JavaFX. This was a semester project for the CS 520 Software Engineering class.

[recipe-crawler](#)

June 2021–present

A web crawler for recipes in HTML <https://schema.org/Recipe> (Microdata/JSON-LD), which output cookbooks in JSON format for testing recipe software. Uses scrape-schema-recipe library (below) for parsing recipes and BeautifulSoup library for parsing anchor tags.

[request_builder.py](#)

2020–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 for agendas and required public notices. Templates were tailored to the City's processes.

[scrape-schema-recipe](#)

2018–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.

[pyproj](#)

2016–2019

Python library for cartographic projection and spatial transformation that wraps the 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.

[combined_municipal_limits_geoprocessing](#)

2014–2016

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 GIS layer with one projection and one schema for the municipal limits that covered Limestone County, AL.

[GIS Maps](#)

2004–2022

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

SOFT 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
- ◆ training general public over the phone and in person to use online maps

VOLUNTEER EXPERIENCE

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.
 - Prepared home cooked meals for the youth and the support staff.

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

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