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Work Experience

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. Collaborated with coworkers about network updates to the Graduate Lab.

Teaching Assistant, September 2022-December 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, August 2021-June 2022

Self-Employed

Redrew voting districts based on 2020 Census.

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:

- Programmed a Python script that automated routine GIS (Geographic Information Systems) 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.
- 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 to contract 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

University of Alabama at Birmingham, Birmingham, AL

M.S. Computer Science [digitally verify](#) (CeDiD: 23YV-U4XM-MWNN, First two letters of name: MI)
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, Florence, AL
December 2004.

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](#) October to December 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 to August 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](#) 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 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 to 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 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 for agendas and required public notices. Templates were tailored to the City's processes.

[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.

[pyproj](#)

2016 to 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 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 GIS layer with one projection and one schema for the municipal limits that covered Limestone County, AL.

[GIS Maps](#)

2004 to 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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