Mackenzie Fileman

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University of Florida

December 2023

B.S. in Computer Science, Digital Arts & Sciences minor, AI Certificate

GPA: 3.71

Relevant Courses: Algorithm Abstraction & Design, Operating Systems, Natural Language Processing, Programming Language Concepts, Information & Database Systems, Data Structures & Algorithms, Network Fundamentals, Programming Fundamentals 1 - 2, UX Design, Linear Algebra, Engineering Statistics

Skills

Proficient: C++, Java
Experienced: Python, SQL, PHP, HTML, CSS, JavaScript, Angular, jQuery, MATLAB
Technologies: Linux, Git, Retool, Postman, IntelliJ, Clion, PyCharm, Visual Studio, Maya, Cinema4D

Experience

Software Engineering Intern @ Legalzoom, Process & Validation Team June 2023 - August 2023

- Built internal tool using **Retool** and **JavaScript** that allowed employees to manage robotic process automation (RPA) triggers
- Compiled and tested API calls using **Swagger** and **Postman**
- Facilitated meetings with other developers to discuss REST API management and improve project design
- Created technical documentation outlining the tool's functionality, architecture, and usage instructions, ensuring ease of adoption for team member

Software Engineering Intern @ BNY Mellon, Corporate Technology Risk Team June 2022 - August 2022

- Developed a data service using **Java Spring Boot** that delivers aggregate trade data from the **Hadoop Distributed File System** to the application frontend
- Verified integration between the data service and UI endpoints using **SQL**, **Java 17**, and **Swagger**
- Achieved **97%** coverage when writing unit tests

Undergraduate Teaching Assistant @ UF, Programming Fundamentals 2 January 2021 - December 2021

- Lead discussions identifying favorable programming solutions for class assignments
- Strengthen computer science concepts such as memory allocation, pointers, and foundational data structures
- Motivate 40+ students to actively learn and develop their understanding of **C++**

Projects

Natural Language Processing Exercises Fall 2023

- Conducted in-depth analysis of datasets using **Python**, with a focus on leveraging popular libraries such as **Pandas** for efficient data manipulation and preprocessing
- Explored the implementation of the **Viterbi algorithm** for Part of Speech tagging and developed a CRF model for Named Entity Recognition (NER) tasks
- Explored document similarity using Jaccard Similarity, Cosine distance, and word vector techniques
- Employed advanced techniques such as tf-idf vectorization and BERT embeddings for comprehensive evaluation, utilizing the powerful **PyTorch** library for efficient deep learning implementations

CineGator Spring 2023

- Collaborated within a 4-member team to design and implement a movie review system allowing users to create accounts, rate movies, and post comments
- Played a pivotal role in developing the backend functionality, employing **PHP** scripting to securely create, manage, and store user accounts within a dedicated database
- Established **SQL** queries to seamlessly integrate the IMDB API, enabling smooth retrieval of movie data

Compiler Spring 2022

- Using **Java 17**, constructed a lexer to translate valid tokens from user input
- Engineered a parser that assembles an abstract syntax tree from the legal tokens
- Implemented a **Visitor design pattern** to perform type checking

COVID by County Fall 2020

- Collaborate with team members and discussed which data structures would provide clean storage and quick response time given 10,000+ data points
- Using **C++**, personally employed hashmap data structure to quickly navigate through covid-related data
- Compared various functions of a hashmap and binary search tree to determine efficiency