Jacob Hill Motley

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Education:

Master of Science in Computer Science: Cyber Security
The University of Tennessee at Chattanooga Expected Graduation May 2022

Bachelor of Science in Computer Science: Software Systems
The University of Tennessee at Chattanooga Fall 2017

Research Experience:

Graduate Research Assistant August 2020 to December 2020
University of Tennessee at Chattanooga Chattanooga, TN

- Used Natural Language Processing (NLP) to calculate Covid-19 Related Tweet Sentiment
- Measure the relationship between Average Tweet Sentiment by State and OxCGRT (Oxford COVID-19 Government Response Tracker) U.S State Government Stringency Indices

Work Experience:

Application Developer March 2019 to June 2020
Covenant Transport Chattanooga, TN

- Create full-stack web apps using Microsoft SQL, Entity Framework, ASP.NET Core APIs, Angular, and usually centered on domain-driven design.
- Collaborate with project managers, business analysts, and data science leadership to design systems.
- Use Microsoft Azure DevOps for source control, Agile planning, and CI/CD.

Junior Software Developer February 2018 to February 2019
Barcom, Inc. Chattanooga, TN

- Develop database-centric systems for customers in manufacturing industries and integrating with assembly line tools and label printers.
- Developed in-flight barcode scanning drone app using Python and DJI drone for programming challenge.
- Used ASP.NET Web Forms, .NET Win Forms, and MSSQL.

Volunteer Projects:

HerbASAP Summer 2019 to Spring 2020
UTC Botany Lab

- HerbASAP was created to automate image post processing for natural history collections using CNNs (convolutional neural networks).
- My contributions include implementing a boss-worker multithreading class using QT's implementation of Python threading so HerbASAP could run neural network jobs simultaneously.

collNotes Spring 2017 to Present (Maintenance)
UTC Botany Lab

- collNotes is a cross-platform mobile app that replaces, or supplements, a field biologist's traditional field journal.
- Using Xamarin Forms cross-platform development kit, developed an iOS and Android app.

collBook Spring 2017 to Summer 2019
UTC Botany Lab

- collBook is a cross-platform PyQT Desktop application used to refine field notes collected with collNotes into portal ready Darwin Core files and specimen labels.
- It is the in-lab portion of a botanist's digital field notes for printing labels and managing collection information.

Technical Skills:

- .NET Core/Framework
- .NET ORM (EF, EFCore)
- Angular
- .NET Xamarin
- Python, Anaconda
- Jupyter Notebook
- Data Science
- Natural Language Processing
- Git, Github
- Docker
- Azure
- Google Cloud
- Amazon s3
- Nmap
- TryHackMe
- Bash, Powershell

Presentations:

- Gave an oral presentation at Associated of Southeastern Biologists in March 2018 on *Developing and Testing Expedient SERNEC Data Entry Solutions: a proposed modification to the SERNEC/Symbiota portal to speed data entry from images.*

Citations:

- An article in which I was a co-author in the Applications in Plant Sciences Journal was published on August 23, 2019 on the collNotes and collBook applications: https://bsapubs.onlinelibrary.wiley.com/doi/full/10.1002/aps3.11284