Donovan Nickol

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EDUCATION

Duke University | GPA: 3.9 | Dean's List with Distinction 2022,2023   Durham, NC | May 2024
B.S. in Computer Science with a Concentration in AI and Machine Learning
   Relevant Coursework: Data Structures and Algorithms, Design and Analysis of Algorithms, Database Systems,
   iOS Mobile Programming, Server-side Web Applications, Machine Learning, Natural Language Processing, Data Science, AI

WORK EXPERIENCE

FanaticusXR | Game Design Intern   Durham, NC | Jan 2024 – May 2024
- Performed market research and sentiment analysis on statistics and reviews of over 100 competing games to inform development.
- Aggregated data to form meaningful conclusions through spreadsheets and figures using **Excel** and **Python** (**matplotlib, pandas**).
- Designed a complete game design document that detailed game mechanics, UI flow, data structures, database requirements, and funding/time budgets.
- Began development of a working prototype for the game programmed in **Unity** with **C#**, making use of the UI toolkit.

EBSCO Information Services | Software Engineering Intern   Durham, NC | Jun 2022 – Aug 2022
- Developed an **ASP.NET web API** to facilitate HTTP requests between a JavaScript frontend and SQL Server Database as part of developing a new program that allows manual verification of web-scraped content and transferal of the content to databases and user products.
- Completed a **Python** program that parsed database information from a proprietary **xml** format to **JSON** using the **SAX** interface, batching, and logic to enable parsing files representing databases with millions of records in efficient time.
- Created comprehensive unit tests in Python using the **unittest** framework to ensure 100% code coverage and enable longevity and sustainability of developed software.
- Utilized **Microsoft SQL Server** to create, adjust, and debug Databases working directly with In Production Software.
- Addressed bugs in production and made improvements in existing **C#/.NET** services using **Kanban** to efficiently organize workflow and **CI/CD** pipelines through Jenkins for iteration.
- Worked on an **Agile** team with daily **Scrum** meetings utilizing development pipeline software i.e., Rally, Jenkins, Octopus Deploy, GitHub.

PROJECTS

Grocery Lister Full Stack Web App   Python, Flask, JavaScript, React.js, PostgreSQL, HTML, CSS
- Used **React.js**, **HTML**, and **CSS** to create a **frontend** that allows users to search grocery stores in a specified range for the best deals on products, add them to their grocery list, and edit their account details.
- Created a web scraper in Python to grab data on grocery stores and their products and incorporate them in the database.
- Used the **Flask** web framework in **Python** to create the **backend** for the site that interacted with the SQL database.
- Implemented relational **algebra** and database creation/maintenance using **PostgreSQL** and **SQL** queries to facilitate database management of grocery stores, thousands of products and details, and the users' details and grocery lists.

Outdoors Advisor Full Stack iOS App   Swift, SwiftUI
- Used **SwiftUI** to create a simple and intuitive iOS user interface that aggregates weather info from calls to Tomorrow.IO and OpenWeather **API**s.
- Created backend in **Swift** that contains API models and loaders as well as a database for users and locations, allowing users to assess the weather quality of any location and save locations in a list for quick reference.
- Developed an algorithm that predicts weather quality based on various meteorological factors and scaled by user-defined criteria, tailoring the app to meet the user's specific needs and increasing user satisfaction.

MyPantry Full Stack Android App   Java, Android Studio, XML
- Implemented Data Structures and OOP in **Java** as well as the Stream API, to create the backend for an Android app that allows users to organize and keep track of their recipes and pantry while automatically suggesting recipes based on inventory.
- Employed **Android Studio** and **XML** to create a functional interface that could interact with the backend and allow users to seamlessly manage their pantry.

SKILLS

Languages: Java, Python, JavaScript, Swift, Elixir, C#, Ruby, SQL, XML, XPath, XQuery, HTML, CSS, R, Scheme
Libraries / Frameworks: React, Node.js, Flask, SwiftUI, Phoenix, .NET, Rails, Pandas, SciPy, Matplotlib, NumPy, Scikit-learn
Technology: Git, Jenkins, Jupyter Notebook, PostgreSQL, MS SQL Server, JMeter, Microsoft Office, Unity, MongoDB, GLPK, GPT