Neil E. Auroni

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EDUCATION

UNIVERSITY OF NORTH CAROLINA at Chapel Hill – Chapel Hill, NC
Expected Graduation — *May 2025*
Double Major w B.S. Computer Science and B.S Statistics and Analytics, Minor in Mathematics

- **Relevant Coursework**: Linear Algebra for Applications, Discrete Mathematics, Spatial Data Science, Data Structures and Algorithms, Calculus of Functions of Several Variables, System Programming, Ordinary Differential Equations, Intro to Probability**.**

EXPERIENCE

ATHENA
Apple Watch app which detects the presence of Rohypnol and alerts close friends and family
https://athenawatch.github.io/
Co-Founder

- *Developed anomaly detection system to detect alcohol poisoning, Rohypnol, GHB, and ketamine using various machine learning strategies such as PCA and Isolation Forest to detect anomalies in vital signs collected from Apple Watch.*
- *Built Apple Watch app that connects users to friends and family and alerts them when a user is roofied.*

Laboratory of Applied Informatics Research – Chapel Hill, 2021
Part of the Carolina Health Informatics Program focusing on information retrieval systems.
Lab Assistant

- Scraped and organized UNC medical faculty data for implementation into proprietary PATTIE system.
    - Used Python BS4 library to scrape web data and used SQL to store this into a relational database.

Carolina Health Informatics Program– Chapel Hill, 2020
DataAware program
Student

- Worked with UNC-Chapel Hill's Carolina Health Informatics Program to collect Twitter data, use NLP, and create poster presentation detailing sentiment scores of tweets relating to COVID-19.
    - Published poster presentation at International Conference on Knowledge Management and AMMI (Analytics and Machine Learning in Maternal Health Intervention).

CURRENT PROJECTS

Building ATHENA algorithm — Fall 2022 – Present
Designing and developing algorithm for ATHENA app using various ML techniques such as Isolation Forest, PCA, and clustering to detect anomalies in vital sign data.

- *Using Python, SQL, Sklearn, Tensorflow, Pandas, and other data science frameworks to organize, manipulate, and model data.*

Developed matching algorithm to scrape and track ticket sales for event
Scraped Venmo payment page and matched with third-party ticket sale information to validate ticket sales.

- *Used Python, BS4, Pandas, and Regex to scrape payment descriptions and perform fuzzy matching to sales database.*

Built iOS app — *Groceries! (for roommates)*
Shared grocery list between roommates which consolidates finances spent on groceries, submitted to HackNC 2022.

- *Used SwiftUI framework to build UI and functionality and implemented Firebase database to give cloud functionality between devices.*

ACKNOWLEDGEMENTS

AMMI Young Scholars Poster Session – Runner Up
Analytics and Machine-Learning in Maternal-Health Intervention.

Published in University of North Texas Digital Library
Poster titled "Global Sentiment Towards COVID-19 on Twitter" was a part of the International Conference on Knowledge Management.

LANGUAGES AND TECHNOLOGIES

Python, Java, Swift, R, Version Control, Git, SQL, Visual Studio, HTML, CSS, JS, Pandas, NLP, Sklearn, Linux, Command Line, Unix, Machine Learning