Dylan Farrell

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Education

Rutgers University New Brunswick, NJ

B.S. in Computer Science *Sep. 2020 - May 2024*

- Relevant Coursework: Algorithms, Intro To Artificial Intelligence, Intro to Data Science, Principles of Information and data management, Software Methodology, Discrete Structures, Data Structures, Physics 1 & 2

Experience

Research Extern June 2023 – Aug. 2023

Rutgers MBS Program *New Brunswick, NJ*

- Researched ways to identify and mitigate evolving cybersecurity threats to Maritime IoT devices, focusing on innovative solutions like the Zero Trust Model.
- Conducted an in-depth analysis of past cyber-attacks on the maritime industry, assessing their impact on operations, finances, and safety.
- Implemented risk assessment models to evaluate potential vulnerabilities and proposed solutions to enhance security measures for maritime operations.
- Presented findings throughout the week with a team of advisors, receiving feedback and iterating on proposed solutions to ensure a successful project outcome.

Projects

Streaming App | *Java, XML, SQLite, Android Studio* Summer 2024

- Developed an IPTV streaming application featuring secure user authentication, favorite channels for sub users, streaming channels, and searching across all catrgories.
- Implemented custom fetchers and parsers to process M3U playlist data for live TV channels, movies, and TV shows, and integrated RecyclerView with custom adapters to display categorized content.
- Designed the app to support compatibility with Google TV, Amazon Fire TV, and various Android TV devices.

Face and Digit Classification | *Python, Machine Learning, Neural Networks* Spring 2024

- Implemented and trained a three layer neural network from scratch using a ReLU activation function and L2 regularization to classify handwritten digits and detect faces in pre-processed images.
- Created a Perceptron classifier to conduct the same experiment, leveraging a simpler algorithm to provide a baseline for comparison against the neural network.
- Achieved classification accuracies of 81% (digit perceptron), 90% (face perceptron), 83.8% (digit neural network), and 92% (face neural network).
- Developed features based on raw pixel data and additional quadrant-based features for digit images, which optimized perceptron and neural network performance.

Auction Platform | *Java, MySQL, Tomcat* Spring 2024

- Developed a comprehensive online auction platform using Java Servlets, MySQL for database management, and Apache Tomcat as the web server.
- Developed background tasks to monitor and process new item listings and bids, ensuring real-time updates and notifications.
- Generated detailed reports and analytics on auction activities for administrative insights.

Photos App | *Java, JavaFX, Android Studio, Bitbucket* Fall 2023

- Developed a photo application in Java using JavaFX and adapted it for Android.
- Designed user interfaces using FXML for enhanced user experience.
- Implemented features for photo management including tagging, date, and location tracking.

Technical Skills

Languages: Java, Python, C, Javascript, HTML, JSON
Frameworks: React, Node.js, Django, JUnit
Developer Tools: Git, AWS, Google Cloud Platform, Visual Studio, IntelliJ, Eclipse, Android Studio
Libraries: Pandas, NumPy, Matplotlib, Pygame