Benjamin Antonio Correia

Quincy, MA | LinkedIn | Website | 617-842-7871 | bcorreia2002@gmail.com

EDUCATION

University of Massachusetts Amherst **Amherst, MA**

BS in Informatics, Data Science Concentration | Minor in Computer Science (Major GPA: 3.8) *Graduation Date: December 2025*

- Relevant Coursework: Data Science, Data Analytics, Statistics, Data Structures, Algorithms, Calculus, Database Management, Linear Algebra, Computer Systems, Business Intelligence

EXPERIENCE

Machine Learning & Cybersecurity Intern **Waltham, MA**

Dassault Systémes | Solidworks *May 2024 - Aug 2024*

- Researched and implemented machine learning techniques to detect network intrusions by monitoring network traffic.
- Transformed and refined large datasets using Pandas, Numpy, and Scikit-learn for improved model performance.
- Trained highly precise tree-based models for threat detection based on known attack signatures, achieving 99.9% accuracy with real-time detection capabilities.
- Developed a feed-forward neural network from scratch using Numpy and implemented an autoencoder in PyTorch to detect anomalous network traffic, potentially indicating new attack vectors.
- Implemented a Kalman filter algorithm from scratch to accurately estimate the position of location markers and improve the vision and pose estimation capabilities of a self-driving robot.

Data Science Undergraduate Course Assistant (TA) **Boston, MA**

University of Massachusetts Amherst *Sept 2024 - Present*

- Assist with in-class activities and maintain awareness of course content by attending lectures.
- Grade class assignments, labs, and exams, ensuring consistent and accurate evaluation.
- Lead lab sessions and facilitate discussions to reinforce key concepts in statistics, data analytics, and machine learning.
- Monitor Piazza to provide timely assistance and answer student questions about coursework.
- Support coursework, which was entirely conducted in the R programming language.

Real Estate Agent **Boston, MA**

Boston Pads | NextGen Realty *June 2021 - June 2022*

- Utilized data-driven approaches to assist clients with finding rental properties, leveraging New England's most comprehensive database of listings.
- Conducted market analyses using listing data to identify trends and opportunities for clients, providing valuable insights for decision-making.
- Implemented database management strategies to ensure accurate and up-to-date information for client consultations.
- Communicated market trends and rental property information effectively to clients, empowering them to make informed decisions.

PROJECTS

Analyzing Credit Risk Using Classification Models

- Utilized RMarkdown to generate a report on implementing logistic regression and random forest models to predict loan defaults.
- Assessed and compared the performance of multiple models using confusion matrix-based evaluation methods.
- Identified key predictors of loan defaults and employed subject matter expertise to explain the underlying reasons.

UMass Inauguration Simulator

- Developed an inauguration project simulation for the new chancellor of UMass Amherst, using multi-thread processing to allow "viewers" to call in and propose questions.
- Implemented a multithreaded approach with the creation of several threads using the pthread library in C
- Employed binary semaphores to control access to critical sections of code, including assigning caller IDs and checking for available call lines.
- Implemented semaphore destruction and thread termination to ensure proper cleanup and conclusion of the inauguration ceremony.

SKILLS

Skills: Data Analytics | Predictive Analysis | Machine Learning | AI | Databases | Data Cleaning | Data Preprocessing | Deep Learning | Data Science | Statistics | Business Intelligence | Algorithms | Data Structures | Data Visualization | Teaching

Languages/Libraries: Python | Pandas | Scikit-Learn | Matplotlib | Numpy | PyTorch | SQL | R | RMarkdown | HTML | CSS | Javascript | Java

Tools: Microsoft Office | VSCode | Jupyter Notebooks | Linux | Rstudio | SQLite Studio | Tableau | Git | Github