

MAURICIO AMBROSIO

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PROFESSIONAL EXPERIENCE

Amazon, Bellevue, WA – Software Development Engineer **February 2022 – Present**

- Develops and maintains software in the Last Mile organization to support operations in facilities and ensure fast package deliveries using multiple AWS cloud services

Adrich, Pittsburgh, PA – Software Engineer **March 2021 – February 2022**

- Built and deployed a feature for complex data retrieval and creation using Node.js, React, and MongoDB aggregation pipeline for combining data from 7 collections, which reduced the time spent for data retrieval from 2 hours to 1 minute
- Redesigned and implemented data download and graphs features by moving processing from browser to backend server and using data pipelines to reduce memory usage by factor of N and fix issue of browser crashing on large amounts of data
- Deployed multiple Machine Learning models through RESTful APIs using the Flask Python framework
- Reconfigured NGINX reverse proxy server to enhance security by disabling TLS 1.0/1.1, removing weak cipher suites, and adding OWASP recommended security response headers, allowing the company to acquire a strategic partnership
- Eliminated recurrent server crashes caused by out-of-memory errors by enabling virtual memory in the Linux server

IUPUI Computer Engineering Department, Indianapolis, IN – Research Assistant **September 2019 – May 2020**

Funded by Allison Transmission

- Built a Predictive Maintenance Machine Learning model using real IoT data from Allison Transmission systems which predicts faults with up to 90% accuracy and 84% precision and recall with a prediction horizon of 60 days
- Performed an extensive pre-processing procedure to generate the dataset, including transforming and combining data from multiple tables in MSSQL, and used Scikit-learn and Matplotlib in Python to build the model and visualize the results
- Solved common ML problems such as feature selection, imputation of missing data, class imbalance, and overfitting

Chevron, Luanda, Angola – Data Science Intern **Summer 2019**

- Created SQL queries and views on data warehouse to process data from multiple tables and provide results for a web app
- Built a Natural Language Processing model to categorize incidents based on text descriptions with 95% accuracy in Python
- Extended the NLP model to generate new subcategory clusters within each category
- Honors and Awards: *Certificate of Appreciation for Outstanding Service*

SELECTED PROJECTS

Online Candy Store Web App (Full Stack) – Independent Project **January 2021 – March 2021**

- Developed online store that allows customers to buy customized candies and post reviews, and employees to process orders, edit inventory, and see visual sale statistics (*available at <https://candystore.mtcambrosio.com>*)
- Used Node/Express for backend, a mix of MySQL and MongoDB for databases, and React/Redux for frontend

Event Advertisement Web App (Full Stack) – Independent Project **June 2020 – October 2020**

- Created web app that allows users to register and see/post events along with multiple images
- Used React/Redux, Node/Express, MongoDB, and AWS S3 (*available at <http://partiesandevents.mtcambrosio.com>*)

University Reviews and Ratings Web App – Independent Project **June 2020 – August 2020**

- Built web app that allows users to review, comment on reviews, and rate Angolan universities on multiple categories
- Used React for frontend and Firebase for backend/database (*available at <https://uninotas.herokuapp.com>*)

EDUCATION

Purdue School of Engineering & Technology, IUPUI – Indianapolis, IN

Master of Science in Computer Engineering – GPA: 3.74/4.0 **December 2020**

Selected Courses: Computer Security • Big Data Analytics • Artificial Intelligence • Intro to Neural Networks

Bachelor of Science in Computer Engineering – GPA: 3.86/4.0 **December 2018**

Minors in Computer Science and Mathematics

Selected Courses: Software Engineering • Principles of Software Design • Database Systems • Data Structures

Honors and Awards:

- Outstanding Electrical and Computer Engineering Freshman Award
- Dean's List of Highest Honors for Academic Excellence 7 times

SKILLS

Technical: AWS, Java, JavaScript, Node.js, React/Redux, Bootstrap, Python, Flask, Android, C/C++, SQL, NoSQL (MongoDB and Firebase), REST APIs, Nginx, Git, Docker, Design Patterns, Machine Learning, Predictive Maintenance, Natural Language Processing, Deep Learning, Classification, Regression, Clustering, Keras, Scikit-learn, Matplotlib, NLTK

Trilingual Communicator: English (Fluent), Portuguese (Fluent), Spanish (Intermediate)