Tomás Ortega Rojas

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EDUCATION

New York University, Graduate School of Arts and Science, New York, NY — May 2022
  Master of Science in Computer and Information Sciences

Florida International University, School of Computing and Information Sciences, Miami, FL — May 2019
  Bachelor of Science in Computer Science

TECHNICAL SKILLS

Languages: Proficient in Java, Python, C/C++ and SQL — Familiar with Matlab and JavaScript
Libraries and Frameworks: Flask, Pandas, Numpy, Pytorch, Keras, Plotly, ScikitLearn, Hadoop, Spark
Tools: Bash, Git, VirtualBox, Docker, PostgreSQL, MongoDB, Amazon AWS, LaTeX

PROJECTS

Self-Driving Car (**JavaScript, HTML, CSS**) — May 2022 - Present
- Developed a car racing game that allows the user to control a car through different real world scenarios.
- Implemented a neural network using JavaScript and trained it using a genetic algorithm for driving through a street while avoiding obstacles.

Texture Synthesis GAN (**Python, PyTorch, Jupyter Notebooks**) — Sep 2021 - Dec 2021
- Implemented a generative adversarial network, and trained it to generate different regular textures.
- Improved the performance of the original model to achieve better looking textures by augmenting the training data using rotations

Ray Tracer (**C++, Eigen**) — Aug 2021 - Dec 2021
- Implemented the ray tracing algorithm using c++ and a library for linear algebra called Eigen.
- Applied an optimization algorithm called AABB Trees to accelerate the rendering of 3D triangle meshes. This improved the rendering speed by 40x

Phishing Website Detection (**Python, Scikit-Learn, Web Crawling**) — Jan 2021 - June 2021
- Used machine learning to identify malicious websites trying to obtain passwords and other sensitive information through phishing attacks.
- Created a web crawler to gather information about both legitimate and malicious websites. This information was then used to train the machine learning algorithms.

Data Science Workflow Manager (**Python, Plotly, Flask**) — Jan 2019 - May 2019
- Implemented tools to automate essential parts of the data analysis process, including data cleaning, passing data to machine learning models and visualizing the results.
- Designed and Implemented the UX/UI for the web application using HTML/CSS/JS along with a python library for data visualization called Plotly

GeekText (**ReactJS, JavaScript, Flask API**) — January 2017 - April 2017
- Web-based application for browsing, filtering and purchasing books online. Implemented using HTML, CSS, JavaScript and React for the UX/UI.
- Designed and implemented RESTful APIs using python and Flask to process the product information and connect with the database from the UI.
- Applied software engineering principles along with the scrum agile methodology.

Bacon Number Calculator (**Java**) — Jan 2017 - April 2017
- Built a command line application to find the bacon number of two actors specified by the user. (The bacon number is the number of vertices needed to link any two actors)
- Developed graph algorithms using Java to efficiently find the distance between any two actors in the database.

EXPERIENCE

Freelancing & Volunteering Jun 2020 - Present

New York City, New York, NY

- Worked directly with clients building webpages for e-commerce and personal websites.

Web Developer Intern Aug 2019 - Jun 2020

GBP Solutions, Miami, FL

- Implemented web scrapers using python to get real estate data from several different sources.
- Worked on a web application using Python, Flask, and PostgreSQL for statistical analysis of real state data.
- Developed application to find properties with similar characteristics in a specific geographic location within a specified radius using PostGIS.

Programming I and II Tutor Aug 2018 - Dec 2018

Florida International University, Miami, FL

- Applied strong communication skills and problem-solving techniques working with students through programming exercises.
- Analyzed and debugged code with students to provide feedback and identify shortcomings.