

MARK JP SANCHEZ

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Education:

Data Science and Computer Science: University of Toronto St. George, expected 2023, GPA – 3.52

Work Experience:

STATA Developer (Kidney Health Education and Research Group, UHN), September 2020 - Present:

- Researched optimization of a survey algorithm through machine learning and compared it to legacy practices
- Tested and worked with Random Forest, Bayes Ridge, Gradient Boosting and Support Vector Machines
- Generated datasets for researchers from our database of thousands of patient info and studies
- Developed STATA scripts for model analysis under conditions such as multiple imputation
- Co-authored and assisted researchers on papers sent to conferences such as the ASN Kidney Week Conference
- Maintained processes that turned data from our databases (Microsoft Access & DADOS) to STATA datasets with Python

Software Engineer Intern (PointClickCare), July 2019 – August 2019:

- Using React Native, I created a proof-of-concept mobile financial analytics app for both Android and IOS
- Authenticated user's credentials and interfaced with company's API to collect medical financial data
- Visualized financial data for health institutions for things such as streams of revenue and monthly trends
- Followed industry practices and developed tests for the code
- Worked and collaborated with team members and other departments such as sales and DevOps to understand the requirements of the application

Extracurriculars:

Robotics Club Programmer (5406 Celt-X Robotics), September 2014 – October 2018:

- Developed robot vision targeting, controls and pathfinding algorithms with Java and OpenCV
- Taught younger club members programming on the robot by setting up mini projects for them
- Achieved 1st place in multiple regional competitions and even came in second in the world championships

Personal Projects:

FRC Match Predictor, July 2020:

https://github.com/Mark-of-JP/FRC-Match-Simulator/blob/master/FRC_Match_Simulator.ipynb

- Used multiple machine learning classification models such as Logistic Regression, K Nearest Neighbour, Random Forest and Naive Bayes to predict the outcome of a given FIRST robotics match using Python
- Collected data from an api which included 8000+ robotics teams and 100,000+ match data.
- Engineered features for the model such as creating and recording an ELO system and used Pytorch alongside Google Colab to make quick matrix manipulations for a sports rating system

North American Tweet NLP, April 2021: <https://github.com/thmsuoft/JSC270A4>

- Developed an unsupervised NLP model that utilizes Latent Dirichlet Allocation on 50,000 tweets from the United States and Canada for Uoft's Data Science class JSC270
- Utilized state-of-the-art NLP practices such as lemmatization
- Found topics Canadians and Americas were talking about and compared the purity of each topic to see if Canadians and Americans were talking about the same topics

Messaging Web App, June – August 2020: <https://everglade-messaging.herokuapp.com/>

- Programmed a full-stack online chat app using React.JS and a Flask backend
- Developed Websocket functionality, CRUD functionality and authentication

Deadline Buddy Web App, February 2021: <https://devpost.com/software/deadline-buddy>

- Using React and MongoDB, we created an award-winning online study planner for YuHacks within 24 hours.

Skills/Technologies:

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| • Python | • Neural Networks | • Linux |
| • JavaScript | • Numpy | • Scikit Learn |
| • PyTorch | • Data Analysis | • Parallelism |
| • C | • CUDA Programming | • SQL/NoSQL |