Nagarjun Ratnesh

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TECHNICAL SKILLS

LANGUAGES: Python • R • Java • SQL • HTML5 • CSS3 • JavaScript • Rust • Bash
TECHNOLOGIES/FRAMEWORKS:
SVN/GIT • Linux • MERN Stack • Regex • leaflet • XML/JSON • Power BI
Cloud:
AWS (Cognito, DynamoDB, Lambda, API Gateway, S3) • Google Analytics • Azure Databricks

EDUCATION

University of Toronto| Honours Bachelor of Science   09/2015 – 04/2020
- Statistics Specialist: Machine Learning and Data Mining Stream
- Psychology Minor

EXPERIENCE

Environment and Climate Change Canada, Toronto, ON

Project Support Officer | *Meteorological Service of Canada*   01/2020 – 03/2020
- Collaborated with other divisions in ECCC departments to determine the prioritization of over 200 projects based on importance to stakeholder, the level of effort, project time frame and risks by analyzing variety of measurements using payoff matrices which facilitated the upper management to make sound financial decisions.
- Produced business process diagram/dataflow diagram of the end-to-end flow of climate data and briefed senior management (directors and the director general) to help find bottlenecks and increase workflow.
- Conducted research on the application of AI on automating QA correction of climate data in collaboration with MoovAI and gave feedback for validating the prototype based on PAC learnability principles.

Business Analyst | *Meteorological Service of Canada*   05/2018 – 08/2019
- Through consultation with clients and solutions team developed requirements documents, mock-ups and specification documents towards the delivery of a scalable data collection, visualization, and notification web application currently used by thousands of ECCC employees to assist with their daily tasks (data analytics, research, forecasting, etc.).
- Coordinated usability and functionality testing part of user acceptance testing (UAT) of the web application mentioned above and sought to proceed to operational implementation from senior management.
- Created, analyzed, and presented survey results on the adoption and usage of international metadata exchange standard tools developed by World Meteorological Organization (WMO, a UN organization) to an international audience. The user feedback contributed to the improvement of WMO's OSCAR/Surface metadata exchange platform used globally.

Software Developer and QA Analyst | *Meteorological Service of Canada*
- Computed descriptive statistics of meteorological observing network performance and validated data processing via ECCC's mission critical and authoritative Data Management System (DMS) using python application.
- Designed and implemented a python application to catalogue meteorological datasets managed by the Data Management System. This catalogue greatly increased the visibility of ECCC datasets by publishing discovery metadata about them.
- Scripted python automation to perform regression of legacy versus renewed system output to ensure completeness and correctness.
- Automated weekly inbox metric report for DMS outlook emails with Excel's VBA code allowed the Project management team to easily prioritize task and pinpoint bottle necks that were causing delays.

University of Toronto Scarborough, Scarborough, ON   01/2018 – 12/2018
Teaching Assistant | *Department of Computer Science, Mathematics and Statistics*
- Carried out tutorials and office hours and taught weekly lessons to second year computer science students to prepare them for assignments/midterms and finals, in addition to marking assignments and answering questions on Piazza for students in the following courses: Database and Web Application, Software Design.
- Collaborated with the course professor to come up with creative assignments to both further enhance the students' learning and experience in the course.
- Automated assignment marking by writing scripts to validate solutions and to input marks into excel sheet saving valuable time for TAs to spend interacting with students directly.

PROJECTS
GDP Nowcasting | *Time Series Analysis*   11/2019
- Experimented with how ARIMA, ARIMAX, VAR model interacts with predicting quarterly GDP. AIC values were to compare strength of the model and MSPE was used as cross validation measure.

Fake News Detection | *Supervised Study Project*   01/2019 – 04/2019
- Implemented the following algorithms from scratch - (PCA, Naïve Bayes, Logistic Regression, Neural Network and K-Fold Cross Validation) to Compare the results of my algorithm with the built in ones from SciKit Learn library to figure out if a POS tagging can be used to fake news detection. Applied the data science principle (data collection and preprocessing followed by model building, training, prediction and verification) and presented the results to the supervising professor.

Movie Review Website | *Individual Project*   01/2017 – 03/2017
- Created a responsive website similar to Rotten Tomatoes (SQL, JavaScript, HTML5, CSS and PHP) and implemented a web service to searched and retrieved data from a server and redirected it to the website.

Flight Booker | *Group Project Leader*   01/2017 – 04/2017
  Lead a team of 4 to design a UML diagram based on the requirements provided by the professor, and implemented the app based on the design and successfully pass all test cases provided by the instructor. Airline Ticket booking Android app (XML, Java, Android Studio, Eclipse)