Joshua Loong

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REFERENCES
Available upon request

EXPERIENCE

Data Analyst, Strategic Insights Unit, Destination Ontario
Toronto, ON – June, 2018 - September, 2018

- Provide analysis on tourism partner marketing performance using Python and Power BI
- Lead an organization-wide strategic review in data and reporting practices to centralize data storage, provide better goal-oriented analysis, and build analytic capacity through training

Data Scientist, Digital Team, Ontario Liberal Party
Toronto, ON – January, 2018 - June, 2018

- The main data scientist for the Digital team in the party's 2018 re-election campaign
- Construct models to find in-depth insights into the performance of digital media content by extracting features, such as colour hues and objects, using computer vision
- Incorporate research learnings into an internal web app built in Flask to assist digital marketing staff with fine-tuning content for better performance
- Create a machine learning pipeline to analyze political conversations for bot activity
- Develop heat maps of voter behaviour overlaid on geographic riding information to help campaign managers allocate volunteer resources more efficiently

Research Analyst Intern, Ministry of Advanced Education and Skills Development
Toronto, ON – May, 2017 – August, 2017

- Complete and present statistical analysis using Python, Excel and Tableau to quantify potential policy changes to job training programs and their effects on student outcomes
- Design data visualization web apps to make open data initiatives more accessible to everyday citizens, in addition to internal research use, using Node.js, MySQL, and Plotly

Marketing Data Analyst, Cabinet Office, Government of Ontario
Toronto, ON – January, 2016 – December, 2016

- Conduct numerous research projects using government social media data to create tools and best practices for the Cabinet Office team using Excel and VBA
- Help strategize, develop and curate content for the Ontario Government's digital marketing initiatives as part of the internal team, and as part of a government-wide innovation group

RESEARCH

Temporal processing of facial expressions of mental states (to be submitted)

- Abstract: This study seeks to gain insight into Dual Process theory through the ability for study participants to recognize complex emotions through facial expressions
- Conduct statistical modeling and exploratory analysis using the Python scientific computing stack (pandas, numpy, matplotlib, statsmodels, sklearn).

Human versus algorithmic emotion recognition project (in progress)

- This project seeks to quantify the differences in recognizing emotion from facial expressions between state-of-the-art neural networks and humans.
- Using Tensorflow, Keras and other Python tools to modify existing architectures to fit the projects needs

SIDE PROJECTS

- **sg2im Demo (In Progress) -** Developing a web app built in React and Flask allowing users to build photorealistic images from scene graphs using Google's sg2im neural network
- **Chow Test Module -** Built the first Python package for calculating Chow tests to measure structural breaks in time series data
- **git-status-size** - Developed a bash utility to help users manage file sizes in their git workflow

EDUCATION

Candidate for Honours Bachelors of Science and Business
University of Waterloo, Waterloo, ON — Sept, 2014 – December, 2019

- The degree provides a strong background in scientific research and analytic skills overlaid with a business focused mindset. Relevant courses include: Statistics for Economists, Computational Biology, Biostatistics, Computational Neuroscience, Business Strategy

TECHNICAL SKILLS

- Languages such as Python, Javascript, VBA, Bash
- Web frameworks like Django, Flask, React, Node
- Databases like SQLite, MySQL, MongoDB, Microsoft Access, Fusion Tables
- Libraries such as sklearn, gensim, scipy, statsmodels, Plotly, D3.js, Selenium, Tensorflow
- BI and spatial tools like Tableau, Power BI, Mapbox, CARTO, and QGIS