Jonathan **Rasmussen**

DATA SCIENTIST | MACHINE LEARNING ENGINEER

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Work Experience

Bell Canada   *Toronto, ON, Canada*
DATA SCIENTIST | GRADUATE LEADERSHIP PROGRAM   *Jul. 2021 - Present*

- Lead developer of a recommendation system for call center training courses to drive agent KPI improvements. Deployed on-going pilot study consisting of thousands of customer service agents with a projected annual cost savings of **$247,000 ≤**.
- Co-Product Owner of Bell Media's TV Viewership ETL pipeline with daily data throughput of 200 GB. Applied Spark and SQL to maintain data quality of all Bell Fibe TV platforms in Ontario and Quebec.
- Autonomized seasonal anomaly detection for data quality assurance processes using Facebook Prophet.
- Developed Lookalike Audience system using deep learning and KNN to identify Bell customers of over 365 interest areas.
- Produced an audible/optical character recognition engine to derive audio/visual data insights from video advertisements.

University of Waterloo's Regenerative Nanomedicine Lab   *Waterloo, ON, Canada*
TISSUE ENGINEERING RESEARCHER   *May. 2019 - Apr. 2020*

- Manufactured a tensile stress machine using AutoCAD with C++ embedded system designs for stem-cell research.
- Created an OpenCV script to quantify stress applied to stem-cell models at human level performance.
- Engineered stem-cell based models for the investigation of an eye disease, resulting in an academic publication.

Nicoya Lifesciences Inc.   *Kitchener, ON, Canada*
RESEARCH AND DEVELOPMENT INTERN   *Jan. 2018 - Aug. 2018*

- Developed new fabrication for protein interaction sensors resulting in a **20%** sensitivity improvement in devices.
- Utilized EDA methods to identify a product defect. Implemented a solution to over 50 machines, saving the company **$937,000**.

Harvard Medical School's Farokhzad Lab   *Boston, MA, USA*
CANCER TREATMENT RESEARCHER   *Sept. 2016 - Apr. 2017*

- Created a stimuli-nanoparticle platform for breast and prostate cancer treatments, resulting in **3** academic publications.

Projects

Empirical Evaluation of Telecommunication Customer Churn Prediction Models
PYTHON/PYTORCH/PANDAS/SKLEARN   *Jan. 2021 - Apr. 2021*

- Implemented an ensemble system consisting of 5 algorithm for customer churn prediction in the telecommunication industry.

Stock Price Prediction via Sentiment Analysis and LSTM Network
PYTHON/TENSORFLOW/PANDAS/LSTM/NLP   *Jan. 2021 - Apr. 2021*

- Utilized sentiment analysis of online forums with LSTM network to predict stock price fluctuations to an accuracy of 66%.

Autonomous Driving system|ML Reproducibility Challenge 2020
PYTHON/TENSORFLOW/PANDAS/COMPUTER VISION/AWS   *Sept. 2020 - Dec. 2020*

- Proposed an explainable object-induced action decision autonomous driving model, improving F1-score from published.

Wheat Crop Image Detection and Counting
PYTHON/TENSORFLOW/OPENCV/COMPUTER VISION   *May. 2020 - Aug. 2020*

- Created an image segmentation system to count the wheat plants ready for harvest in an image with an F1-score of 85%.

Classification of Sky Survey Images for Rare Galaxy Type Detection
PYTHON/PYTORCH/PANDAS/OPENCV/COMPUTER VISION/AWS   *May. 2020 - Aug. 2020*

- Developed a web application to aid astronomers in detecting 40 new galaxies, current total of known samples ≈200.

Education

Master's of Engineering, University of Waterloo   *Waterloo, ON, Canada*
SYSTEMS DESIGN ENGINEERING | ARTIFICIAL INTELLIGENCE & MACHINE LEARNING SPECIALIZATION   *May. 2020 - Apr. 2021*

- Certificate in Business & Entrepreneurship · NSERC Global Biomedical Technology Research & Innovation Program

Bachelor's of Applied Science, University of Waterloo   *Waterloo, ON, Canada*
NANOTECHNOLOGY ENGINEERING | HONOURS | CO-OPERATIVE PROGRAM   *Sept. 2014 - Apr. 2019*

- University of Waterloo President's Scholarship Award · SWILP Award · NSERC Undergraduate Student Research Award

Skills

Programming Languages: Python, R, SQL, C++, HTML, CSS, Javascript · **Data Science:** TensorFlow, Pytorch, Pandas, scikit-learn, pySpark ML, OpenCV · **Data Engineering** Docker, Hadoop, Spark, Teradata · **Other:** Git, Tmux, AWS, GCP, Tableau, Agile Development Methodology