Larkin Liu

CONTACT INFORMATION

Location: Toronto, ON Canada *Web:* larkz.github.io

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LANGUAGES

English, Chinese, French*

STATUS

Canadian Citizen

PERSONAL SUMMARY

I completed my MASc focusing on Operational Research, and BASc focusing on Robotics at the world-renowned University of Toronto. Subsequently, I worked as a Data Scientist in multiple organizations both start-up and corporate world. My research interests are Stochastic Processes, Optimization, Reinforcement Learning, and Deep Learning.

EDUCATION

University of Toronto, Toronto, Ontario, Canada

Master's of Applied Science, Industrial Engineering,
Focus in Operations Research, 2017

- Thesis: Statistical Fraud Detection Methods on eCommerce
- Advisor: Viliam Makis

University of Toronto, Toronto, Ontario, Canada

Bachelors of Applied Science, with Honours, Mechanical Engineering,
Minor in Robotics and Mechatronics, 2015

PUBLICATIONS

L. Liu, R. Downe, and J. Reid. Multi-Armed Bandit Strategies for Non-Stationary Reward Distributions and Delayed Feedback Processes. *In Canadian Operational Research Society 61st Annual Conference (CORS)*. arXiv:1902.08593v1. 2019

MANUSCRIPTS

L. Liu, J. Reid, Y.C. Lin. Improving the Performance of the LSTM and HMM Model via Hybridization. Manuscript Available. arXiv:1907.04670. 2019

INVITED TALKS

Multi-Armed Bandit Strategies for Non-Stationary Reward Distributions and Delayed Feedback Processes. *Invited Speaker at AISC*. 2019.

Application of Machine Learning in Advertising Technology at StackAdapt. *Guest Lecturer at the University of Toronto School of Continuing Studies* , 2018.

TECHNICAL REPORTS

Early Gearbox Fault Detection via Auto-Regressive Models in the Time Domain constructed from Vibrational Data. Summer Research Fellowship Program. University of Toronto. 2012

Automated Measurement of Contact Angles for Sessile Droplets using MATLAB Image analysis Library. Summer Research Assistant. University of Toronto 2011

PROFESSIONAL EXPERIENCE

Data Scientist, *Loblaw Companies Limited* **August, 2018 - September, 2019**
Toronto, ON, Canada

- Developed statistical and machine learning models on Google Cloud Platform and Hadoop for grocery eCommerce inventory and supply-chain optimization.

*Listed in descending order of proficiency. Speaker of Mandarin and Cantonese dialects.

Data Scientist, *StackAdapt* **October, 2016 - August, 2018**
Toronto, ON, Canada

- Developed machine learning models, such as Random Forest, Gradient Boosted Trees, and Logistic Regression, at scale for advertising technology on Amazon AWS using Apache Spark.

Visiting Scientist, *Paytm Labs* **October, 2015 - June, 2016**
Toronto, ON, Canada

- Building robust fraud detection systems and recommender systems using Apache Spark and Hadoop.

Reliability Engineering Intern [†] , *Advanced Micro Devices* **May, 2013 - May, 2014**
Toronto, ON, Canada

- Quality and reliability testing of discrete GPU's under computational load.

Teaching Experience

Data Science Mentor, *SharpestMinds* **January 2019 - Current**
Toronto, ON, Canada

- Prepared tutorials and lessons in statistics, computer science and machine learning for students who wish to work in the industry based out of Canada and the USA.
- **Past Students**:
  Shashank Badavanahalli, Python Developer, CNET (2019)

Teaching Assistant - MIE364, *University of Toronto* **Winter 2017**
Toronto, ON, Canada

- Provided course grading for *Reliability Engineering*

Teaching Assistant - APS104, *University of Toronto* **Fall 2016**
Toronto, ON, Canada

- Provided course laboratory instruction for *Introduction to Computer Programming*

Honours and Awards

- Mitacs Accelerate Industry Government Joint Research Grant (2015) C$30,000
- Wallace G Chalmers Engineering Design Award (2013) C$860
- Faculty of Applied Science Engineering Research Fellowship (2012) C$3000
- Cancer Care Ontario IDEA Challenge Development Grant (2012) C$1000
- Magna Family Scholarship (2010) C$10,000

Public Service

- *Session Chair for Business Analytics Section*, CORS Annual Conference 2019
- *Research Student*, RBC Capital Markets. 2014-2015

Membership

- *Member*, Artificial Intelligence Socratic Circles (AISC) 2018-
- *Member*, Canadian Operational Research Society (CORS) 2015-
- *President*, University of Toronto Data Science Group (UTDSG) 2015-2017
- *Member*, University of Toronto Operational Research Group (UTORG) 2015-2017
- *Member*, University of Toronto Robotics Association (UTRA) 2012-2017

Technical Skills

Programming Languages:	Python, Scala, Java, C/C++, R
Distributed Computing Frameworks:	Apache Spark, Hadoop
Operating Systems:	Windows, Linux, MacOS, Unix
Tools:	Bash Scripting, Shell Scripting

[†] PEY - Professional Experience Year Program