Tianyu Du

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LINKS

Website: **tianyudu.com**
Github: **github.com/tianyudu**
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COURSEWORK

GRADUATE
Probabilistic Machine Learning (A+, 100%)
Neural Net and Deep Learning (A+, 99%)
Machine Learning (A+, 98%)
Stochastic Processes (A+, 96%)
Data Mining (A+, 100%)

UNDERGRADUATE
Real Analysis (A+, 100%)
Non-linear Optimization (A+, 97%)
Advanced Calculus (A+, 97%)
Linear Algebra (A+, 92%)
Probability (A+, 100%)
Time Series Forecasting (A+, 91%)
Game Theory (A+, 97%)
Econometrics (A+, 95%)
Experimental Economics (A+, 97%)
Economics of Information (A+, 95%)
Combinatorics (A+, 91%)

SKILLS

PROGRAMMING
Python • Shell • Matlab • R
Stata • Mathematica • SQL • C++
Julia

DATA SCIENCE LIBRARIES
Pytorch • Tensorflow • Pandas
Numpy • Sci-kit Learn • Matplotlib
Seaborn

OTHERS
LaTeX • Linux • AWS • GCP
Wordpress

EDUCATION

STANFORD UNIVERSITY | Expected Sep 2020 – Jun 2022
Master of Science, Management Science & Engineering
- Focus on computational social sciences and causal inferences.

UNIVERSITY OF TORONTO | Sep 2017 - Jun 2020
Honours Bachelor of Science (High Distinction), Economics & Mathematics
- Cum. GPA: 4.00/4.00, course average: 95%.
- Thesis: effciency of the crude oil market and forecasting crude oil returns using news sentiments (supervisor: Stuart M. Turnbull and Aloysius Siow).
- Top graduating student at Woodsworth college in 2019-20.

STANFORD UNIVERSITY | Jun 2019 - Aug 2019
Summer Session, Intensive Studies in Data Science
- Cum. GPA: 4.30/4.30, course average: 99%.

ACTIVITIES

SUMMER RESEARCH STUDENT | Apr - Sep 2020
Supervisor: Ashton Anderson
We are working on a project examining the causal relationship between players' performances and quitting behaviours from more than 260m chess game records by 30k players. We found aggregate-level behaviours were indeed driven by two distinct types of players.

UNDERGRADUATE HONOURS THESIS | Sep 2019 - Apr 2020
Supervisors: Stuart M. Turnbull and Aloysius Siow
This thesis focuses on the WTI crude oil market and predictive powers encoded in sentiments of news from major publishers. I designed a framework to quantify news sentiments and incorporate sentiments into forecasting models, such framework provides an estimation to the profitability of predicting the market from news data.

TD ROTMAN FINHUB TDMDAL HACKATHON | Feb 2020
Finalist Group (Top 5)
In this project, we developed a dictionary based NLP process extracting information from transcripts of earning calls of S&P 500 companies, and predict stock price movement on the next trading day.

PATIENT DATA ANALYSIS ON PANSS DATASET | Jun - Aug 2019
1st Place in Class
Positive and Negative Syndrome Scale (PANSS) scores of schizophrenia patients were used to test treatment effects, k-means and Gaussian mixture were used to cluster patients based on scores prior to treatment. Moreover, SVM, random forests, and boosting machines were developed to detect potential invalid assessments and forecast patients' future psychological states.

CIBC MACHINE INTELLIGENCE HACKATHON | Sep 2018
Finalist Group (Top 5)
An auto-encoder-decoder architecture neural network was implemented to detect fraud in medical insurance claims.

HONOURS & AWARDS

Jun 2020	The Arthur M. Kruger Honours Scholarship (1st/1200 graduating students)
Jan 2020	Mcnab Undergraduate In-Course Scholarship
Oct 2019	Alexander Mackenzie Scholarship In Economics And Political Science
Jul 2019	Killam American Fund For International Exchange
2019-20	Dean's List Scholar 2018-19 Dean's List Scholar 2017-18 Dean's List Scholar