TIANYU DU

Undergraduate at University of Toronto, Economics and Mathematics Specialist Program

CONTACTS

Email tianyudu@stanford.edu
Phone (+1)647-886-7951
Website www.tianyudu.com
Github www.github.com/tianyudu
LinkedIn www.linkedin.com/in/tianyu-du

EDUCATION

Stanford University, United States *September 2020 - June 2022*
Master of Science in Management Science & Engineering
Incoming Graduate Student, Focus: Computational Social Science.

University of Toronto, Canada *September 2017 - June 2020*
Honours Bachelor of Science, Economics & Mathematics Specialist
Courses: Calculus, Linear Algebra,Real Analysis, Game Theory, Non-linear Optimization. Time Series Analysis, Econometrics, Probability, Machine Learning, Neural Networks.
Cumulative GPA: 4.00/4.00, Course Average: 95%.

Stanford University, United States *June 2019 - August 2019*
Summer Session, Intensive Program in Data Science
Courses: CS229:Machine Learning(Graduate), STATS202:Data Mining and Analysis(Graduate), STATS116: Theory of Probability(Undergraduate).
Cumulative GPA: 4.30/4.30, Course Average: 99%.

Hangzhou Foreign Languages School, China *September 2014 - June 2017*
Examinations: General Certificate of Education A-Level(CIE). Advanced Placement(AP).
Activities: Co-founder of HwHumans Student Platform.

RESEARCH INTERESTS

Machine Learning Methods and their Applications on Time Series Forecasting.
Computational Economics, Simulations for Game Theory, and Market Design.
Behavioural and Experimental Economics.

SCHOLARSHIPS & AWARDS

Mc Nab Undergraduate Scholarship *December 2019*
Alexander Mackenzie Scholarship In Economics And Political Science *October 2019*
Dean's List Scholar(2018-19) *June 2019*
International Experience Award (Killam American Fund for International Exchange) *May 2019*
Dean's List Scholar(2017-18) *January 2018*

ACTIVITIES & PROJECTS

Thesis on Forecasting Crude Oil Returns using News Sentiment and Machine Learning
Honours Essay in Applied Microeconomics *September 2019 - April 2020*
Top students from department of economics are selected to conduct their own original research in this

[0]Resume compile date: 00:24 Friday 6th March, 2020

program. My thesis focuses on forecasting spot price of crude oil using news sentiments. Dataset from Ravenpack news analytics are used to construct daily sentimental measures for crude oil market. Data science techniques including SVM, Random Forest, LSTM, CNN-RNN are deployed to create predictive models and capture the underlying inter-temporal dependencies.

TD Rotman FinHub TDMDAL Hackathon *February 2020*
Finalist Group (Top 5)
In this project, we developed a dictionary based NLP process extracting information from transcripts of over 12,000 earning calls of S&P 500 companies, and predict stock price movement on the next trading day.

Patient Data Analysis on PANSS Dataset *June 2019 - August 2019*
The Final Project for STATS202 at Stanford University (Final Report Class Top)
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.

Independent Reading in Mathematics: Mathematical Economics *May 2019 - June 2019*
Supervisor: Robert J. McCann
A supervised learning program focusing on microeconomic theory with mathematical rigour. Topics included duality theory in optimization, consumer and producer theory, partial and general equilibrium, as well as market failures like adverse selection.

CIBC Machine Intelligence Hackathon *September 2018*
Finalist Group (Top 5)
An auto-encoder-decoder architecture neural network was implemented to detect fraud in medical insurance claims.

SKILLS

Programming Skills Python including TensorFlow, PyTorch, Sci-kit Learn, Pandas, Numpy, and various data visualization toolkits; R; STATA; Matlab; Mathematica; Bash.
Development Server deployment on Amazon Web Services (AWS) and Google Cloud Platform (GCP).
Data Analytics & Machine Learning Solid mathematical and statistical foundations for statistical learning models. Being able to implement and deploy machine learning models for both academic purposes such as paper replication and industrial purposes.

RECENT EXTRA-CIRRUCULAR

Volunteer: Economics Peer Mentorship Program, as Mentor. *October 2019 - April 2020*
Volunteer: University of Toronto, Representative at the Learning Abroad Fair. *November 2019*
Volunteer: University of Toronto, Second Year Learning Community Panel, as Panelist. *October 2019*

OTHER COURSES & CERTIFICATES

Coursera Practical Time Series Analysis; Machine Learning; Serverless machine learning with Tensorflow on Google cloud platform; Social and economic networks: models and analysis; Sequence models (recurrent neural networks); Mathematics for machine learning: multivariate calculus.
Nvidia Accelerated computing with CUDA python.