Tianyang Li

Graduate Student at University of Oxford, Mathematical Sciences
tianyang.li@linacre.ox.ac.uk

LINKS

Website: www.l-ty.com
Github: github.com/litianyang0211

COURSEWORK

GRADUATE

(University of Oxford, in progress)
Network
Theory of Deep Learning
Statistical Machine Learning
Simulation Method
Graphical Model

(University of Toronto)
Stochastic Process (A+)
Method of Applied Statistics (A+)
Probabilistic Machine Learning (A+)
Statistical Computation (A+)

UNDERGRADUATE

(University of Toronto)
Theory of Statistical Practice (A+)
Machine Learning (A+)
Method of Data Analysis (A+)
Probability (A+)
Econometrics (A+)
Intermediate Microeconomics (A+)
Intermediate Macroeconomics (A+)
Real Analysis (A+)
Chaos, Fractals and Dynamics (A+)
Abstract Mathematics (A)
Ordinary Differential Equation (A+)
Linear Algebra (A+)
Calculus (A+)

SKILLS

PROGRAMMING

Julia • Matlab • Octave
Python • R • Stata

DATA SCIENCE LIBRARIES

Numpy • Pandas • PyTorch
Sci-kit Learn

OTHERS

LaTeX

EDUCATION

UNIVERSITY OF OXFORD | Oct 2021 - Jun 2022 (Expected)

Master of Science, Mathematical Sciences

UNIVERSITY OF TORONTO | Sep 2017 - Jun 2021

Honours Bachelor of Science (High Distinction), Statistics (Specialist) & Mathematics (Minor)

- Cum. GPA: 3.97/4.00, course average: 94%.

PEKING UNIVERSITY | Jun 2019 - Jul 2019

Summer Exchange, Modern Machine Learning in Practice

HONOURS

Jun 2021	Walter Neil Thompson McKay Scholarship
Dec 2020	Faculty of Arts & Science Alumni & Friends Undergraduate Scholarship
Aug 2020	Joseph Wesley MacCallum Scholarship
Dec 2018	Samuel Beatty In-Course Scholarship
Nov 2018	Lawrence and Sharen Ho International Scholarship
Oct 2018	James Morrow Scholarship
2017-20	Dean's List Scholar (All Semesters at University of Toronto)

RESEARCH EXPERIENCE

LINEAR TRANSFORMER | Dec 2021 - Now

We are working on reducing the self-attention quadratic complexity in Transformer architecture.

MODIFIED BATCH RENORMALIZATION ALGORITHM | Dec 2021

We proposed a novel Batch Renormalization method, named Modified Batch Renormalization (MBR), that overcame insufficient mini-batch problem without introducing additional nonlinear operations. The core idea of MBR is to substitute exponential moving average (EMA) statistics for batch statistics and modify the EMA statistics.

REAL-WORLD APPLICATION OF TRUE POSTERIOR APPROXIMATION | Mar 2020

We implemented a variant of the TrueSkill model using gradient-based stochastic variational inference, optimized the approximate posterior to estimate the true posterior with tennis match outcomes and analyzed the framework of athletes' skill sets.

TD ROTMAN FINHUB TDMDAL HACKATHON | Feb 2020

Finalist Group (Top 5)
We developed a dictionary-based NLP platform to extract information from transcripts of earning calls of S&P 500 companies, and predict stock price fluctuation on the next trading day.

TEACHING EXPERIENCE

METHODS OF DATA ANALYSIS | Tutor | Jan 2021 - Apr 2021

THE PRACTICE OF STATISTICS | Tutor | May 2020 - Dec 2020

CALCULUS II | Teaching Assistant | Jan 2019 - Apr 2019

CALCULUS I | Teaching Assistant | Sep 2018 - Dec 2018