YIDAN (EDEN) XU

https://edenx.github.io
+1 (206)409-9027 ⋄ yx2516@uw.edu

EDUCATION

University of Washington, Seattle, USA 2019 - Present
MS in Statistics *Current GPA 3.9*

2020 Spring:

· Statistical Computing, Measure Theory, Convex Analysis and Nonsmooth Optimization, Special Topics in Biostatistics: Spatial-Temporal Statistics

2020 Winter:

· Kernel Method; Stochastic Modelling: Model based Geostatistics and GMRF

2019 Autumn:

· Foundations of Machine Learning; Statistical Inference; Stochastic Modelling: Markov Chains and Graphical Models

Imperial College London, UK 2016 - 2019
BSc in Mathematics with Statistics (3YFT) *GPA 81%*

· Relevant Courses:
· Real/Complex Analysis, Scientific Computing, Time Series, Applied Probability, Stochastic Simulation, Finite Elements:Analysis and Implementation, Statistical Modelling
· 3rd Year Dean's List, 5% of 200 students.

AWARDS

· **Mary Lister McCammon Research Fellowship**: Awarded to 14 female undergraduate students in Mathematics and Statistics around UK.
· **Winton Capital Prize in Mathematics**: Awarded to best second year's group projects in Math Department, 3 out of 46.
· **BP Undergraduate Research Opportunities Project Awards**: Awarded to students undertaking UROP project at Imperial College, 1 in every department.

PROJECTS

Aggregated Log-Gaussian Cox Process:
Extending Spatial Point Process to Areal Data Modelling June - October 2019
Prof. Seth Flaxman, Mary Lister McCammon Research Fellowship *Imperial College, UK*

· The project entails scalable Bayesian machine learning methods for spatial point process with aggregated count data in R using Stan and INLA.
· Employed Kernel mean embedding as Covariance function for modelling areal relevance between two geographic entities of the same level.
· Implemented Contiguous-block cross validation for length-scale selection and model comparison of existing areal models in the literature.
· Implemented with Sub-Sahara HIV prevelance data and UK PBC data. (Github Page)

Assessing Microfinance Profile in Rural Pakistan July - October 2018
Prof. Anthony Bellotti, Undergraduate Research Opportunities Programme *Imperial College, UK*

· Conducted post-selection inference in R to identify and explain patterns hidden in rich data of household demographic, credit and agriculture portfolio.
· Implemented Lasso with Tweedie family GLM for feature selection.
· Performed redescriptive data mining to identify common groups of households sharing distinct sets of attributes.

Rook Polynomial Generation Algorithms and Implementation May - June 2018
Dr Lynda White, Second Year Final Project *Imperial College, UK*

· Reviewed Rook polynomial, a generating function for Enumerations that generalises Derangements.
· Improved the Cell Decomposition algorithm, which produces the polynomial, by incorporating a heuristic approach to automate chessboard partitioning via bipartite graph.
· Implemented the revised algorithm in Python.

Urban Retail System: Locate New Air Delivery Centre in London May - June 2017
Prof. Mark Girolami, Poster Project *Imperial College, UK*

· Studied Stochastic Spatial Interaction Model with London commercial activity data to analyse dynamics and long-term behaviour of the retail system affected by the installation of a Air Delivery Centre.
· Implemented Dynamical modelling with the principle of maximum entropy on the stochastic system, which is constrained for attractiveness of retail entities.
· Experimented with location optimisation in pursuit of maximising revenue and long-term survival.

VOLUNTEERING

KDD2018 August 2018
Student Volunteer

London African Healthcare Hackathon April 2018

· Worked in a diverse team of eight to produce a technology-centred solution for challenge proposed by MSF, with a focus on improving resource allocation under disaster scenario in Africa.

Raincatcher Imperial, Student-led Charity June 2017 - June 2018
Secretary, Member of Committee *Imperial College, UK*

· Organised social campaigns and fund-raising events to promote water related projects in Tanzania and raise public awareness for water scarcity. Collaborated with Tanzania NGO to negotiate and manage progress of summer project.

SKILLS

Programming Language	*Proficient*: R, Python; *Coursework*: MATLAB, C
Tool & Framework	Stan, INLA, Pytorch, LaTeX