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# XUECHUN (LEONIE) LU

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**my portfolio:** https://xuechunlu7.github.io/

## Technical Skills

- Python (TensorFlow, Keras, Pytorch, NumPy, Scikit Learn, Pandas, Pickles), R, PySpark (SQL), Java, C++.
- Feature Engineering, Supervised/Unsupervisied Machine Learning, Deep Learning, Experimental Design and Optimization.

## EMPLOYMENRT

**Research Assistant** **MannuLife & Universtiy of Waterloo** **Jan 2021 - Current**

- Merged and cleaned datasets into a temporal format using PySpark.
- Explored K-NN and other drug natural grouping methods to reduce the dimensionality of drugs.
- Screened 4000 drugs that significantly affect a client's insurance duration using Sure Independence Screening.

**Teaching Assistant** **University of Waterloo** **Sep 2020 – Current**

- Courses TAed: Statistics for Software Engineering, Probability.

**Teaching Assistant** **University of British Columbia** **May 2017 – May 2020**

- Courses taught: Differential Calculus for Physics.
- Courses TAed: Computation and Programming, Differential Calculus for Physics and Engineering, Elementary Statistics.

## PROJECT

**Set Classification Based on A Histopathology Dataset (2021).** Implemented a PointNet inspired deep network that can identify major lung tumors given a set of tissue images. Accuracy achieved: 90%. *TensorFlow, PyTorch, Colab*

**NLP - Sentence Ordering (2021)**. Given a set of unordered setences, used Google's Bert Model + Topological Sort to predict the correct order. Accuracy achieved: 76%. *PyTorch, Colab*

**Risk Prediction in Life Insurance Industry (2020).** Used PCA and CFS to reduce data dimensions and classified risk levels of insurance buyers using regression, nerural network, random forrest and REP tree. *R*

**Prediction of 2020 Mill Rates in Metro Vancouver (2020).** Built predictive models (ordinary and advanced linear regression) to predict 2020 property mill rates for Residential, Light Industry and Business properties in Metro Vancouver. *R*

## EDUCATION

**Waterloo, ON** **University of Waterloo** **Sep 2020 – Current**

- MMath in Statistics, expected: Aug 2021. GPA: 90/100
- Coursework: Deep Learning, Machine Learning; Experimental Design, Sampling Theory, Mathematical Statistics, Computational Inference, Statisical Consulting.

**Vancouver, BC** **University of British Columbia** **Sep 2016 – May 2020**

- BSc in Statistics, May 2020. GPA: 88/100
- Cousework: Statistical Learning, Experimental Design, Case Study in Statistics, Statistical Inferernce (Top 1), Finding Relationship in Data (Top 1); Ordinary Differential Equation, Partial Differential Equation, Real Analysis, Mathematical Proof (Top 1); Intro to Algorithm, Intro to Software Engineering.

## AWARDS

- **Graduate Research Studenship (Jan 2021 – Current):** Research student under the supervision of Prof. Chengguo Weng, Prof. Liqun Diao and Prof. Yaoliang Yu.
- **Faculty of Science International Student Scholarship (2019 - 2020):** Awarded for demonstrating strong academic achievement, engagement in the Faculty, and the potential to make a scholarly contribution within their chosen field of study.