Wenjie Li / William

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Education

The Chinese University of Hong Kong (CUHK), Hong Kong. **Sep. 2015-July. 2019**

- Bachelor of Mathematics. Double Stream in Computational and Enrichment Mathematics.
- GPA: Cumulative: 3.871/4.0. Major: 3.934/4.0
- Standard Test: TOEFL: 112 (R27, L30, S28, W27)
- 2017-2018 Exchange Student Ranking: **1st among all exchange students (>1000)**

University of Pennsylvania (UPenn), Pennsylvania, USA**.** **Jan-May. 2018**

- International Exchange Student. Took three graduate level courses among total four courses.
- GPA: Cumulative: 4.0/4.0. (two A+); Math: 4.0/4.0

Reports/Presentations

1. M. Ani Hsieh, **Wenjie Li**, Xiao Zhang, Dhanushka Kularatne, Bowen Ke, Paris Perdikaris. Machine Learning for Identifying Lagrangian Coherent Structures. Poster **Accepted** at AGU 2018 Fall.

Research Experience

Project: Application of Teichmuller mapping and Beltrami Coefficients **Sep.2018-Now**

Mathematical Imaging Group, Dept. of Math CUHK. *Advisor: Prof. Ronald Lok Ming Lui*

- Work on the application of Complex Analysis to Mathematical Imaging on brains and teeth
- Implemented the computation of Teichmuller mapping on teeth surfaces and performed illness classification

Project: Poor-Rich Index for Economic Inequality in Societies **Sep.2018-Now**

Statistics & Economics Group, Dept. of Math CUHK *Advisor: Prof. Raymond H.Chan*

- Derived and implemented the numerical Poor-Rich Difference Index and its confidence interval as a new statistical measure for income distributions.
- Compared the performance of new index with Gini, Zenga index and analyzed their differences.
- Tested the new index performance on different datasets such as Hong Kong 2011 Population Census and drafted reports.

Project: Machine Learning of Lagrangian Coherent Structure in Dynamic Systems **Jun-Aug. 2018**

Penn's Institute of Computational Science & ScalAR Lab. *Advisor: Prof. Paris Perdikaris*

- Collaborated with Prof. Paris Perdikaris, Prof. M. Ani Hsieh and her student Dhanushka Kularatne.
- Implemented algorithms that computes the Lyapunove Exponent for Double Gyre datasets.
- Collected Finite Time Lyapunove Exponents datasets for algorithm training and testing.
- Trained several neural network models to simulate the expensive computation by machine learning.
- Drafted a report for the American Geophysical Union fall meeting.

Project: Using Support Vector Machine for Separation of DNA Sequences. **May-Oct. 2017**

Bioinformatics Lab, CUHK. *Advisor: Prof. Kevin Yip.*

- Worked in Prof. Kevin Yip's research group as a student research helper.
- Assisted the project of analyzing DNA sequence similarities by using *gapped-indel-kmer-pattern*.
- Optimized the efficiency of the algorithm and generated different kernel functions to separate DNA sequences into different groups.

Seminar: Time Series, Financial Forecasting and Technical Analysis **Feb-May. 2017**

Time Series Group, CUHK *Advisor: Prof. Raymond H.Chan*

- Studied time series and financial modeling under the supervision of Chairman Prof. Raymond Chan.
- Presented advanced concepts and modern techniques in the analysis of time series.
- Built more than 10 statistical models with computer programs in R language.
- Participated in weekly meetings and talks with other professors and students.

Teaching Experience

The Chinese University of Hong Kong

Teaching Assistant. **Sep-Dec. 2016**

- Taught the general education course GESH1010 with Prof. Juanita Chueng and Prof. Christy Kou.
- Prepared teaching materials with other TAs and professors.
- Participated in weekly meetings and discussions about the course progress.

Scholarships/Awards

- Student Development Scholarship for Mathematics Undergraduates 2018
- Heung To Education Fund Mathematics Scholarship 2017 **(Top 2)**
- The Cheng Foundation Scholarship 2017 **(Top 1%)**
- The S.H. Ho Annual Scholarships for Outstanding Academic Performance 2017 **(Top 3%)**
- The S.H. Ho Foundation Student Exchange Scholarships 2017/18
- Dean's List 2016-2017 **(Top 10%)**
- Yasumoto International Exchange Scholarship 2017
- Undergraduate Mathematics Scholarship 2016 **(Top 10%)**
- Master's List 2016-2017 **(Top 3%)**
- The S.H.Ho Summer Exchange Scholarship 2015-2016
- Dean's List 2015-2016 **(Top 10%)**
- Wei Lun Foundation Scholarships for Mainland Students 2015-2016
- S.H.Ho Matriculation Scholarships for Academic Excellence 2015-2016
- Honors at Entrance 2015-2016 **(Top 1)**

Skills

Specialized: Scikit-learn, PyTorch, Swing
Computer Skills: Python, MATLAB, LaTeX, R, Java, Ocaml, C++, MS Office, Adobe
Languages: Fluent English and Cantonese, native Mandarin, basic French.

Extra-Curriculum

President of Flame Dialogues • CUHK **Nov. 2015 - Sep. 2017**

- Coordinated the daily work of different members in the club.
- Participated in regular joint meetings with students from other five universities.

Yau-Mathematical Sciences Center (YMSC), Tsinghua University, China **July-Aug. 2017**

- Studied the Anosov Representations and relevant algebraic topics.

Bali Island, Indonesia **Dec-Jan. 2016**

- Taught more than 100 elementary school students basic English.
- Volunteered in arranging teaching materials for the school.