Panxi Chen

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EDUCATION

University of Michigan, Ann Arbor	**Ann Arbor, MI**
Master's program in Applied Statistics	**Anticipated Aug 2021 – Apr 2023**

- Overall GPA: 3.96/4.00
- Core Curriculum: Statistical Learning, Probability Theory, Statistical Inference, Time Series, Bayesian Modeling

Illinois Wesleyan University	**Bloomington, IL**
B.S. in Mathematics, Minor in Business Administration	**Aug 2016 – May 2020**

- Major GPA: 3.77/4.00; Dean's Lists
- Core Curriculum: Numerical Analysis, Real Analysis, Differential Equations, Linear Algebra, Modern Algebra

University College London	**London, UK**
Exchange Program, Mathematics	**Jan 2019 – June 2019**

SKILLS

- Programming: Proficient in R, Python, Julia, SQL, Java, C++, Mathematica, Processing, MATLAB.
- Proficient in LaTeX, Office, and Adobe.
- Languages: Chinese (native); English (advanced)

PUBLICATIONS

- P. Chen, X. Li and W. Wang, "Improving Occluded Face Recognition with Image Fusion," *2020 13th International Congress on Image and Signal Processing, BioMedical Engineering and Informatics (CISP-BMEI)*, 2020, pp. 259-265, doi: 10.1109/CISP-BMEI51763.2020.9263664.

INTERNSHIP & RESEARCH EXPERIENCE

Topological Data Analysis on kidney (glomerular) Data	**Ann Arbor, MI**
Research, Supervised by Dr. Kerby Shedden, UMich	**Dec 2021 – Present**

- Explored data depth, UMAP, t-SNE, and TDA, and apply them to the glomerular point data after optimization.
- Specific slices were identified based on bottleneck distance of persistence diagrams, and their corresponding individual clinical variables were compared and analyzed.
- The topological mode analysis tool was used to check whether the glomeruli in each slice showed clustering and its relationship with the clinical variables of the corresponding individual.
- Detect whether some glomerular lie on or around lines based on Hough transform.

Research Intern, Department of Technology	**Nanjing, CN**
National Station of Petroleum & Natural Gas Flow Measurement, Nanjing Branch	**Mar 2021 – July 2021**

- Develop software that automates manual metrological verifications and calibrations using Python. Functions include locating and extracting data from the main SQL database, cleaning data, generating statistics, visualizing data, returning results to the main database, saving results to local, and designing the front-end interface.

Algorithmic Construction in Spectrum for Maximum Packing of Complete Graphs with Stars of Order n	
Independent Research, Supervised by Dr. Daniel Roberts, IWU	**Aug 2019 – Dec 2019**

- Applied Java and Python as the baseline of the experiment, and computed all possible leave cardinalities for S_k-packing of complete graph on n vertices to CSV file, where S_k is the complete bipartite graph $K_{1,k}$.

Markets Analytics Intern, Department of Capital Markets	**Hangzhou, CN**
China Guangfa Bank	**June 2019 – Aug 2019**

- Conducted internal and web-scrapping data cleansing with Python and R to facilitate data storage; Applied SQL to integrate multi-source data and drew customer persona to evaluate enterprises' financial risk levels.

Application of Girard-Waring Identities of Recursive Sequences	**Aug 2017 – Apr 2018**
Presented at JWP Research Conference and McLean County Stem Gala, Supervised by Dr. Tian-Xiao He, IWU	

- Devised a class of Girard-Waring type identities for recursive sequences using their generating functions and explicit expressions and simplified the sequences by Taylor series expansion.
- Established the classical Girard-Waring identity using forward difference approximation and dug deeper into summation formulas construction and Hagen-Rothe type identities.