Siyi Wu

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EDUCATION

University of Toronto Sep 2022 - Dec 2027 (Expected)
Doctor of Philosophy in Computer Science; GPA: 4.0/4.0; Supervisor: Steve Easterbrook

Hong Kong University of Technology Sep 2021 - June 2022
Master of Science in Financial Technology; GPA: 4.1/4.3

Wake Forest University Sep 2017 - May 2021
Honors in Bachelor of Science in Computer Science & Mathematical Statistics

- **Academics: Honors**, GPA:3.97/4.00, **Summa Cum Laude**, Dean's List, **Upsilon Pi Epsilon**, **Phi Beta Kappa**, **Pi Mu Epsilon**, **Alpha Phi Omega**
- **Awards:** URECA research fellowship ($8000), Grace Hopper Scholarship 2020.

RESEARCH INTERESTS

Machine Learning; Trustworthy & Explainable AI; Human-Computer Interaction; Climate Informatics; Computational Sustainability; Environmental Justice

RESEARCH PROJECTS

- **Siyi Wu**, Feixue Han, Bingsheng Yao, Tianyi Xie, Xuan Zhao, Dakuo Wang (2024), *Sunnie: An Anthropomorphic LLM-based Conversational Agent for Mental Well-Being Activity Recommendation.* Under Review in The ACM Symposium on User Interface Software and Technology (ACM UIST'24).

- Eshta Bhardwaj, Harshit Gujral, **Siyi Wu**, Ciara Zogheib, Tegan Maharaj, Christoph Becker, *Machine Learning Data Practices through a Data Curation Lens: An Evaluation Framework*, Conference on fairness, accountability and transparency (ACM FAcct'24).

- **Siyi Wu**, Steve M Easterbrook, Tegan Maharaj, *Bridging the Usability Gap: A Research Agenda for Enhancing Climate Information and Communication*, Sustaining Scalable Sustainability Workshop at ACM CHI'2024

- **Siyi Wu**, Steve M Easterbrook, *Regional Studies of Multimodel Ensemble of Climate Projections for Enhanced Interpretability and Performance using Machine Learning Approaches*, Abstract presented at AGU23, 11-15 Dec.

- **Siyi Wu**, Steve M Easterbrook, *Improving Interpretability and Performance in Multi-Model Ensemble CMIP6 Climate Projections through Machine Learning*, Abstract presented at AGU23, 11-15 Dec.

- **Siyi Wu**, Steve M Easterbrook, Ishtiaque Ahmed, **Ethical Aspects of Artificial Intelligence in Environmental Justice**, HCI for Climate Change Workshop at ACM CHI'2023.

- Han Qiao, **Siyi Wu**, Christoph Becker, *"Near Data" and "Far Data" for Urban Sustainability: How Do Community Advocates Envision Data Intermediaries?* In Submission to ACM SIGCHI Conference on Computer-Supported Cooperative Work & Social Computing (ACM CSCW'25).

RESEARCH EXPERIENCE

Toronto Climate Observatory TCO Sep 2022 - Present
Graduate Researcher (Supervised by Prof. Steve Easterbrook)

investigating the intersection of environmental justice, specifically exploring urban heat island effects, particularly examining the role of green spaces and cooling centers in relation to socioeconomic factors in urban areas

The DataMine Research Group DataMine@WFU Jan 2020 - May 2021

Honor Thesis: dimensionality reduction of single cell RNA sequencing(scRNA-seq) data

Granted 2020 Summer Wake Forest Research Fellowship; Reduced dimensionality of sparse and large scRNA-seq datasets for tumor detection using PCA, t-SNE, UMAP and GAN on 11 public datasets; Identified the best dimensionality reduction method, UMAP, of scRNA-seq data in terms of best NMI score from clustering analysis

Wake Forest Research Fellowship 2019 Supervised by Robert Erhardt Jan 2019 - May 2021

Honor Thesis: Climate Model Compression and Predictability

Granted 2019 Summer Wake Forest Research Fellowship; Quantify the predictability of compressed climate data; Implemented empirical orthogonal functions (EOF) to compress datasets and visualize the patterns, predicted temperature and precipitation using time series models, and evaluated results via root means squared error; Proved possibilities of summarizing climate data with EOF and giving better prediction with VAR models

TEACHING EXPERIENCE

Teaching Assistant, UofT, Introduction to Databases (CSC343) Winter 2024
Teaching Assistant, UofT, Computers and Society(CSC300) Winter 2024
Teaching Assistant, UofT, Introduction to Databases (CSC343) Fall 2023
Teaching Assistant, UofT, Introduction to Computer Science (CSC148) Winter 2023
Teaching Assistant, Neoscholar CIS, Machine Learning Algorithms by Victor Adamchik 2021
Teaching Assistant, Neoscholar CIS, Computational Biology by Sorin Istrail 2021
Teaching Assistant, Neoscholar CIS, Planning for Autonomous robots by Nick Hawes 2021
Teaching Assistant, Neoscholar CIS, Algorithms by David Woodruff Summer, Spring, Winter 2020
Teaching Assistant, Wake Forest University, Introduction to Computer Science (CSC111) Winter 2020

SKILLS

Programming Languages: Python, R, C, C++, Javascript, HTML, MySQL
Frameworks and Tools: Keras, Scikit-learn, PyTorch, Pandas, NumPy, D3, Matplotlib, LaTeX