Yehu Chen

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CONTACT INFO

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RESEARCH INTERESTS

Machine learning, Causal inference, Bayesian methods, Gaussian process, Forecasting, Adaptive experimentation and Quantitative methods

Software Engineer (AI/ML) at Google. Experience building, deploying and operating large-scale production machine learning systems. Own end-to-end ML pipelines for YouTube Ads audience modeling, including model development, offline/online experimentation, serving and monitoring. PhD research focused on Bayesian machine learning for quantitative inference, with contributions to causal inference, psychometrics, adaptive experimental design and forecasting. Dissertation thesis covers latent variable measurement, heterogeneous treatment effect estimation and adaptive data acquisition.

EDUCATION

Washington University in St Louis, St Louis, MO
Ph.D. Candidate in Computational & Data Science, Sept. 2019 to Present

- Track: Computational Methodologies (*GPA: 3.9/4.0*)
- Advisors: Roman Garnet (*CSE*), Jacob Montgomery (*PoliSci*)
- Expected graduation: Summer 2025

University of Michigan, Ann Arbor, MI
B.S in Computer Science (Summa Cum Laude), Sept. 2017 to May. 2019

Shanghai Jiaotong University, Shanghai, China
B.S.E in Electrical and Computer Engineering, Sept. 2015 to Aug. 2019

PUBLICATIONS

A Multi-Task Gaussian Process Model for Inferring Time-Varying Treatment Effects in Panel Data. Yehu Chen, Annamaria Prati, Jacob Montgomery and Roman Garnett. In the 26th International Conference on Artificial Intelligence and Statistics (*AISTATS*), 2023

Idiographic Personality Gaussian Process for Psychological Assessment. With Joshua Jackson, Jacob Montgomery and Roman Garnett. In the Conference on Neural Information Processing Systems (*Neurips*), 2024

Polls, Context, and Time: A Dynamic Hierarchical Bayesian Forecasting Model for US Senate Elections. Yehu Chen, Roman Garnett and Jacob M.

Montgomery. In *Political Analysis*, 2023

Gaussian Process Conjoint Analysis for Adaptive Marginal Effect Estimation. Yehu Chen, Jacob Montgomery and Roman Garnett. NeurIPS workshop on Bayesian Decision and Uncertainty, 2024

Compressive Big Data Analytics: An ensemble meta-algorithm for high-dimensional multisource datasets. Simeone Marino, Yi Zhao, Nina Zhou, Yiwang Zhou, Arthur W. Toga, Lu Zhao, Yingsi Jian, Yichen Yang, Yehu Chen, Qiucheng Wu, Jessica Wild, Brandon Cummings and Ivo D. Dinov. In *Plos one*, 2020

WORK IN PROGRESS

GD-GPIRT: Generalized Dynamic Gaussian Process Item Response Theory for Latent Measurement. With JB Duck-Mayr, Jacob Montgomery and Roman Garnett. American Political Science Association (APSA), 2023

Structured Flexibility: Gaussian Process Regression as a Complement to Linear Models in Political Science. With Annamaria Prati (NYU), Roman Garnett and Jacob Montgomery. Submitted to *AJPS*

Gaussian process Regression and Post-stratification for Grouped Data. With Alexis Jang, Santiago Olivella (UNC), Bryant Moy (NYU) and Jacob Montgomery.

PRESENTATIONS

Poster Sessions:

- The 38th Annual Conference on Neural Information Processing Systems, Vancouver, Canada, 2024
- Society for Political Methodology Meeting, Riverside, CA, 2024
- STL DataFest 2024, st louis, MO, 2024
- Society for Political Methodology Meeting, Stanford, CA, 2023
- Information and Statistics in Nuclear Experiment and Theory, St Louis, 2023
- The 26th International Conference on Artificial Intelligence and Statistics, Valencia, Spain, 2023
- Society for Political Methodology Meeting, St Louis, MO, 2022
- Michigan Institute for Data Science Annual Symposium (Most Likely Health Impact Postewr), U of M Ann Arbor, MO, 2018

Campus Talks:

Computational Data Science Student Seminar, WashU St. Louis, 2022

TEACHING EXPERIENCE

Teaching Assistant, Washington University in St Louis 2019 to Present

- CSE 517A Machine Learning: Spring 2024
- PoliSci 582 Quantitative Political Methodology II: Fall 2021
- CSE 515T Bayesian Methods in Machine Learning: Spring 2021, Fall 2024

Instructor Assistant, Shanghai Jiaotong University 2016 to 2019

- Honored Mathematics I, II & III: Fall 2016, Spring 2017, Summer 2017
- VE230 Electromagnetics I: Summer 2019

Grading Assistant, University of Michigan Fall 2018

- EECS 376 Foundation of Computer Science

WORK EXPERIENCE

Google, Kirkland, WA Oct. 2025 - now
Software Engineer, AIML

Chewy, Bellevue, WA Aug. 2025 - Oct. 2025
Machine Learning Engineer

WashU DI2 Accelerator, St Louis, MO May. 2025 - Aug. 2025
AI Engineer

Washington University in St Louis, St Louis, MO Aug. 2019 - May. 2025
Graduate Research Assistant

SOFTWARE

gpirt R package for dynamic Gaussian process item response model for latent trait estimation with MCMC sampling (with JBrandon Duck-Mayr).

TECH SKILLS

Programming:
C, C++, C#, Python, R, Matlab, Java, JavaScript, HTML, Latex, Linux, SQL
Statistical and Machine Learning tools:
Tensorflow, pytorch, gpytorch, pyro, pymc, Stan, GPML toolbox

SERVICE

Conference Reviewer: 2023 - now
International Conference on Learning Representations (ICLR)
International Conference on Machine Learning (ICML)
Conference on Neural Information Processing Systems (NeurIPS)
International Conference on Artificial Intelligence and Statistics (AISTATS)
International Conference on Autonomous Agents and Multiagent Systems (AAMAS)

AWARDS & HONORS

'Deans List', University of Michigan	2017 to 2018
'Bosch' Scholarship, BOSCH, Ltd	2015 to 2016

REFERENCES

PROF. ROMAN GARNETT ✉ garnett@wustl.edu
Department of Computer Science and Engineering, WashU St. Louis

PROF. JACOB MONTGOMERY ✉ jacob.montgomery@wustl.edu
Department of Political Science, WashU St. Louis

PROF. TED ENAMORADO ✉ ted@wustl.edu
Department of Political Science, WashU St. Louis