Yichen Jia

Immigration status: U.S. Permanent Resident
Preferred working location: New York City Metropolitan Area
Email: jiayichen678@gmail.com

Education

University of Pittsburgh, Pittsburgh, PA — April 2022
Ph.D. in Biostatistics
Dissertation advisor: Jong H. Jeong, Ph.D.
Dissertation title: New Model-based and Deep Learning Methods for Survival Data

University of Washington, Seattle, WA — Aug 2017
M.S. in Biostatistics

University of Iowa, Iowa City, IA — May 2015
Graduate with Distinction
B.S. in Mathematics
B.A. in Biochemistry

Work Experience

Sanofi (Vaccines), Swiftwater, PA
Translational and Early Development Biostatistics
Biostatistician — Aug 2021 – present
Biostatistician (contractor, part-time) — Sep 2020 – Jul 2021
Biostatistics Summer Intern — Jun 2020 – Aug 2020

University of Pittsburgh Medical Center, Department of Psychiatry, Pittsburgh, PA
Graduate Student Researcher — Aug 2017- Aug 2021
PI: Mary Ganguli, M.D., MPH; Supervisor: (Joyce) Chung-Chou H. Chang, Ph.D.
- Provided statistical analysis and consultation for studying risk/protective factors of mild cognitive impartments/dementia and related entities

University of Pittsburgh, Pittsburgh, PA
Teaching Assistant — Jan 2019 – Apr 2019
- BIOST 2086, Mixed Model

University of Washington, Department of Biostatistics, Seattle, WA
Graduate Research Assistant — Sep 2016 – Jun 2017
Supervisor: Timothy A. Thornton, Ph.D.
- Analyzed high-dimensional genomic dataset (human liver whole genome RNA-seq data) using machine learning tools

University of Iowa, Department of Obstetrics and Gynecology, Iowa City, IA
Undergraduate Research Assistant — Dec 2011-May 2015

P.I.: Kimberly K. Leslie, M.D.; Supervisor: Shujie Yang, Ph.D.

- Examined the mechanism of progesterone receptor down-regulation during endometrial cancer progression

Honors and Awards

ASA Student of the Year, Pittsburgh Chapter 2022

ASA Lifetime Data Science (LiDS) Section Student Paper Award at JSM 2021

Deep Learning for Quantile Regression under Right Censoring: DeepQuantreg

ICSA Applied Statistics Symposium Poster Award 2020

Deep Learning for Quantile Regression under Right Censoring: DeepQuantreg

ENAR Distinguished Student Paper Award 2020

Cause-specific Quantile Regression on Inactivity Time

University of Washington School of Public Health Awards of Excellence 2017

Outstanding Master's Student

University of Iowa Student Employee of the Year Recognition 2014

Publications

Biostatistics – Methodology

- Jeong, J. H. & **Jia, Y.** (2022+). Weighted Causal Deep Learning for Prediction of Individual Event Times for Breast Cancer Patients Under Right Censoring. *arXiv preprint arXiv:2203.10207*. *Submitted.*
- **Jia, Y.** & Jeong, J. H. (2022+). DeepCENT: Prediction of Censored Event Time via Deep Learning. *arXiv preprint arXiv:2202.05155*. *Under review.*
- **Jia, Y.** & Jeong, J. H. (2022). Deep Learning for Quantile Regression under Right Censoring: DeepQuantreg. *Computational Statistics & Data Analysis, 165,* 107323.
- **Jia, Y.** & Jeong, J. H. (2021). Cause-specific Quantile Regression on Inactivity Time. *Statistics in Medicine, 40*(7), 1811-1824.

Biostatistics – Collaboration

- Wood. I., Bhojak T., **Jia, Y.**, Jacobson, E., Chang, C. C. H. & Ganguli, M. (2022+). Predictors of Driving Cessation: A 12-year Population-based Study. *In revision.*
- Lee. S., **Jia, Y.**, Snitz, B. E., Chang, C. C. H. & Ganguli, M. (2022). Assessing Social Cognition in Older Adults: A Population-Based Study. *The American Journal of Geriatric Psychiatry*, *30*(4), S88-S89.
- Runk A., **Jia, Y.**, Liu, A., Chang, C. C. H., Ganguli, M & Snitz, B. E. (2021). Associations between Visual Acuity and Cognitive Decline in Older Adulthood: A 9-year Longitudinal Study. *Journal of the International Neuropsychological Society,* 1-11.
- Bhojak T., **Jia, Y.**, Jacobson, E., Snitz, B. E., Chang, C. C. H. & Ganguli, M. (2021). Driving

Habits of Older Adults: A Population-Based Study. *The American Journal of Geriatric Psychiatry*, *29*(4), S128.

- Ganguli, M., Hughes, T. F., **Jia, Y.**, Lingler, J., Jacobson, E., & Chang, C. C. H. (2020). Aging and Functional Health Literacy: A Population-Based Study. *The American Journal of Geriatric Psychiatry*, *29*(9), 972-981.
- Lee. S., Jacobson, E., **Jia, Y.**, Snitz, B. E., Chang, C. C. H. & Ganguli, M. (2020). Reading the Mind in the Eyes: A Population-Based Study of Social Cognition in Older Adults. *The American Journal of Geriatric Psychiatry*, *29*(7), 634-642.
- **Jia, Y.**, Chang, C. C. H., Hughes, T. F., Wang, S., & Ganguli, M. (2020). Predictors of Dementia in the Oldest Old: A Novel Machine Learning Approach. *Alzheimer Disease & Associated Disorders*, *34*(4), 325-332.
- Cohen, A. D., **Jia, Y.**, Smagula, S. F., Chang, C. C. H., Snitz, B. E., Jacobson, E., & Ganguli, M. (2020). Cognitive functions predict trajectories of sleepiness over ten year: a population-based study. *The Journals of Gerontology: Series A*, glaa120.
- Smagula, S. F., **Jia, Y.,** Chang, C. C. H., Cohen, A., & Ganguli, M. (2019). Trajectories of daytime sleepiness and their associations with dementia incidence. *Journal of Sleep Research*, *29*(6): e12952.
- Stoehr, G. P., Jacobson, E., **Jia, Y.**, Snitz, B. E., & Ganguli, M. (2019). Trends in the use of medication to treat or prevent dementia: a population-based study. *Alzheimer Disease & Associated Disorders*, *34*(2):148-155.
- Shaaban, C. E., **Jia, Y.**, Chang, C. C. H., & Ganguli, M. (2019). Independent and joint effects of vascular and cardiometabolic risk factor pairs for risk of all-cause dementia: a prospective population-based study. *International psychogeriatrics*, *31*(10), 1421-1432.
- Ganguli, M., **Jia, Y.**, Hughes, T. F., Snitz, B. E., Chang, C. C. H., Berman, S. B., ... & Kamboh, M. I. (2019). Mild Cognitive Impairment that Does Not Progress to Dementia: A Population-Based Study. *Journal of the American Geriatrics Society*, *67*(2), 232-238.

Biochemistry and Cell Biology

- Kavlashvili, T., **Jia, Y.**, Dai, D., Meng, X., Thiel, K. W., Leslie, K. K., & Yang, S. (2016). Inverse relationship between progesterone receptor and Myc in endometrial cancer. *PLoS One*, *11*(2), e0148912. (**co-first author**)
- Meng, X., Yang, S., Zhang, Y., Wang, X., Goodfellow, R. X., **Jia, Y.,** ... & Leslie, K. K. (2015). Genetic deficiency of Mtdh gene in mice causes male infertility via impaired spermatogenesis and alterations in the expression of small non-coding RNAs. *Journal of Biological Chemistry*, *290*(19), 11853-11864.
- Yang, S., **Jia, Y.**, Liu, X., Winters, C., Wang, X., Zhang, Y., ... & Xu, Y. (2014). Systematic dissection of the mechanisms underlying progesterone receptor downregulation in endometrial cancer. *Oncotarget*, *5*(20), 9783.
- Yang, S., Xiao, X., **Jia, Y.**, Liu, X., Zhang, Y., Wang, X., ... & K Leslie, K. (2014). Epigenetic modification restores functional PR expression in endometrial cancer cells. *Current pharmaceutical design*, 20(11), 1874-1880.

- Leslie KK, Thiel KW, Goodheart MJ, De Geest K, **Jia Y**, Yang S. Endometrial cancer. Obstet Gynecol Clin North Am. 2012 Jun;39(2):255-68. doi: 10.1016/j.ogc.2012.04.001.

Presentations

- (Talk) "Deep Learning for Quantile Regression under Right Censoring: DeepQuantreg", *JSM (virtual),* Aug 2021.
- (Poster) "Deep Learning for Quantile Regression under Right Censoring: DeepQuantreg", *ASA Pittsburgh Chapter Spring Banquet (virtual),* Apr 2021.
- (Poster) "Deep Learning for Quantile Regression under Right Censoring: DeepQuantreg", *Dean's Day, Graduate School of Public Health, University of Pittsburgh (virtual),* Apr 2021.
- (Poster) "Deep Learning for Quantile Regression under Right Censoring: DeepQuantreg", *ENAR (virtual),* Mar 2021.
- (Poster) "Deep Learning for Quantile Regression under Right Censoring: DeepQuantreg", *Biostatistics Student Research Day, University of Pittsburgh (virtual),* Mar 2021.
- (Poster) "Deep Learning for Quantile Regression: DeepQuantreg", *ICSA (virtual),* Dec 2020.
- (Talk) "Cause-specific Quantile Regression on Inactivity Time", *ENAR (virtual),* Mar 2020.
- (Talk) "Cause-specific Quantile Regression on Inactivity Time", *Biostatistics Student Research Day, University of Pittsburgh*, Pittsburgh, PA, Feb 2020.

Statistical Packages

CausalDeepCENT: A Python package (with GPU acceleration) of deep (Deep) learning algorithm to predict causal (Causal) individual censored (C), event (EN) time (T). Available on GitHub. link

DeepCENT: A Python package (with GPU acceleration) of deep (Deep) learning algorithm to predict an individual censored (C), event (EN) time (T). Available on GitHub. link

DeepQuantreg: A Python package (with GPU acceleration) for deep (Deep) censored quantile (Quant) regression (reg). Available on GitHub. link

QRegIT: An R package (with functions written in Rcpp) for quantile (Q) regression (Reg) on inactivity (I) time (T). Available on GitHub. link

ExactVE: An R package for exact method on vaccine efficacy trial with a non-zero lower bound. (Internal use at Sanofi)

Journal Referees

Statistics in Medicine
Journal of the America Geriatrics Society

Computational Skills

R, Python (PyTorch, TensorFlow, Keras, Scikit-learn, NumPy, Pandas, Matplotlib, etc.), machine learning, deep learning, UNIX shell scripting, high throughput computing, Stata, SAS, LaTex, cloud-based Jupyter notebook environment (e.g., Google Colab)

Professional Affiliations

Member of American Statistical Society (ASA)
Member of Eastern North American Region International Biometric Society (ENAR)
Member of International Chinese Statistical Association (ICSA)

Services

Business manager, Pitt ASA Student Chapter	Aug 2020 – Jul 2021
Student volunteer, LiDS conference	May 2019
Student volunteer, ASA Pittsburgh Chapter Poster session and Banquet	Apr 2019