

Vahed Maroufy

Contact Information	Department of Biostatistics and Data Science. School of Public Health University of Texas Health 1836 San Jacinto Blvd, Austin, TX 78701	
Academic Appointments	Assistant Professor (TT), Biostatistics and Data Science, School of Public Health, University of Texas Health	Sep 2020 – Present
	Assistant Professor (NTT), Biostatistics and Data Science, School of Public Health, University of Texas Health	Jan 2019 – Sep 2020
	Post-Doctoral Fellow, Biostatistics and Data Science, • Research Area: <i>Data Mining and Dynamic Prediction in Electronic Health Records (EHR); Statistical Analysis of Gene Expression and RNA Data, With Focus on Cancer Cell-lines</i>	Aug 2016 – Jan 2019
Education	Ph.D., University of Waterloo , Waterloo, Ontario, Canada. Statistics, June 2016 • Thesis Topic: <i>Applications of Geometry in Optimization and Statistical Estimation</i> • Supervisor: Prof. Paul Marriott M.Sc., Allame Tabatabaei University , Tehran, Iran Statistics, February 2006 • Thesis Topic: <i>Bayesian Sample Size Calculation in Clinical Trials</i> B.Sc., University of Tehran , Tehran, Iran Statistics, September 2003	
Research Interests	Data Mining and Big Data Analysis, Analyses of Biomedical Data and Electronic Health Records (EHR), Dynamic Prediction, Gene Expression Analysis, Geometry of Statistical Models, Computational Statistics and Optimization, Mixture Models and Latent Analysis, Bayesian Inference and Robustness.	
Selected Funded & collaborative Projects	Sex-Specific Hormonal and Head Kinematic Effects on Blood Biomarker Responses to Repeated Head Impacts (DHHS (NIH)) 09/01/2026 – 08/31/2028 Role: Contacting PI Vale+Tu Salud: Corner-Based Randomized Trial to Test a Latino Day Laborer Program Adapted to Prevent COVID-19 07/01/2021 – 03/31/2027 Role: Co-Investigator Oral Health and Dental Care Utilization among Formerly Incarcerated Older Adults in the United States 04/01/2024 – 03/31/2026 Role: Co-Investigator	

TEPHI Data/Data Access/Data Science 11/08/2021 – 10/31/2026
Role: Co-Investigator

Research Panel of Veterans with History of Incarceration – National Veterans Homeless and Other Poverty Experiences (NV-HOPE) 09/01/2024 – 08/31/2025
Role: PI

A Pragmatic Randomized Trial Integrating Homelessness Diversion Services into an Emergency Department Discharge System
09/26/2022 – 11/30/2025
Role: Co-Investigator

Vale+Tu Salud: Targeting psychosocial stressors to reduce Latino Day Laborers Injury Disparities
09/01/2018 – 03/31/2025
Role: Co-Investigator

Harris Health PCORI HS II Capacity Building
07/01/2023 – 12/31/2024
Role: Co-Investigator

A Pragmatic Randomized Trial Integrating Homelessness Diversion Services into an Emergency Department Discharge System.
09/2022 to 08/2025
Role: Co-Investigator

A Prescription for Health Living Project/Proposal Start and End Date
12/15/2021 to 02/16/2025
Role: Co-Investigator

Selected Methodology Publications

Afhami, B., Madadi, M., Rezapour, M. and ***Maroufy, V.**, 2026. Application of principal stratification in crossover and parallel clinical trial designs. *Journal of Biopharmaceutical Statistics*, pp.1-11.

Maroufy, V., Rezapour, M., Zarepour, M. and Afhami, B., 2025. On Measure of Association for Heavy-tailed Random Variables. *Statistica Sinica*, 38(4).

Afhami, B., Rezapour, M., Madadi, M. and ***Maroufy, V.**, (2022). On Sensitivity for Portfolio Optimisation Based on a High-dimensional Jump-diffusion Merton Model. *Statistics, Optimization & Information Computing*, 10(3), pp.983-997.

Afhami, B., Rezapour, M., Madadi, M., ***Maroufy, V.** (2021). Dynamic investment portfolio optimization using a multivariate Merton model with correlated jump risk. *International Journal of Nonlinear Analysis and Applications*, 12(2), 1331-1341. doi: 10.22075/ijnaa.2021.23421.2538

Maroufy V. and Marriott P. (2020) Local and Global Robustness with Conjugate and Sparsity Priors. *Statistica Sinica* 30 (2), 579-599.

Maroufy V. and Marriott P., (2017) Mixture Models: Building a Parameter Space. *Statistics and Computing*, 27(3), 591-597.

Maroufy V., Marriott P. and Pezeshk H., (2014). An Optimization Approach To Calculating Sample Size With Binary Responses. *Journal of Biopharmaceutical Statistics*, 24(4), 715-731.

**First/Senior
Author
Applied
Publications**

- Pezeshk H., Nematollahi N., ****Maroufy, V.**, Marriott P. and Gittins J., (2013). Bayesian Sample Size Calculation for Estimation of the Difference of Two Binomial Proportions. *Statistical Methods in Medical Research (SMMR)*, 22(6), 598-611.
- Pezeshk H., Nematollahi N., ****Maroufy, V.** and Gittins J., (2009). The Choice of Sample Size; A Mixed Bayesian / Frequentist Approach. *Statistical Methods in Medical Research (SMMR)*, 18 (2), 183-194.
- Pezeshk H. and **Maroufy, V.** (2005). A Fully Bayesian Sample Size Determination for Inference of the Difference of Two Independent Binomial Proportions. *Iranian Int. Journal of Science*, 6(2), 203-212.
- Tsai, J., Pradhan, B., Hossain, F. MD., & **Maroufy, V.** (Accepted Aug 2026) Longitudinal association between concurrent changes in social support and mental health symptoms among low-income U.S. veterans: A 2-year follow-up study. *Psychiatric Quarterly*.
- Tsai, J., Ndabezitha, S. S., Lai, H., & **Maroufy, V.** (2026). Employment and industries that low-income US veterans with low-income and mental illness participate in. *Psychiatric rehabilitation journal*.
- Tsai, J., Liang, J. and **Maroufy, V.**, 2025. Differentiating Individual Characteristics Associated with Suicidal Ideations, Plans, and Attempts among low-Income Veterans. *Chronic Stress*, 9, p.24705470251348749.
- Balogh, J., ..., Williams, G. W. and **Maroufy, V.** (2025) Effect of frailty as measured by functional impairment on long-term outcomes in liver transplantation in the United States *World Journal of Transplantation* 15(2)
- Tsai, J., Lai, H., and **Maroufy, V.** (2024). Longitudinal change and association between four types of social support and mental health among low-income US veterans. *International Journal of Social Psychiatry*, 00207640241299321.
- Tsai, J., Li, Y., & **Maroufy, V.** (2024). Prevalence of four types of social support and their relation to mental health among low-income US veterans: implications for community health. *Community mental health journal*, 1-11.
- Park, J. M. ..., **Maroufy, V.** and Williams, G. W. (2023) Influences of vaccination and public health strategies on COVID-19 dynamics in the United States: Evaluating policy impacts, behavioral responses, and variant proliferation, *International Journal of One Health*, 9(2): 172-180
- Williams, G., Mubashir, T., ..., and **Maroufy, V.** (2023) Recent COVID-19 Infection is Associated with Increased Mortality in the Ambulatory Surgery Population *Journal of Clinical Anesthesia* p.111182
- Lai, H., ..., Williams, G. W. and **Maroufy, V.** (2024) Racial and Socioeconomic Disparities in Traumatic Brain Injury Outcomes: Insights from a Nationwide Analysis. *Neurosurgery* pp.10-1227.
- H., Lai, H., Mubashir, T., Shiwalkar, N. Ahmad, H., Balogh, J., Williams, G., Bouer, C. and **Maroufy, V.** (2022) Association of Pre-Admission Opioid Abuse and/or Dependence on Major Complications in Traumatic Brain Injury (TBI) Patients *Journal of Clinical Anesthesia*, 79, 110719.

* Senior authors Methodology paper

** Master Thesis Methodology paper

**Selected
Colaborative
Applied
Publications**

- Asghari, A., Wall, K., Gill, M., Del Vecchio, N., Allahbakhsh, F., Wu, J., ... and **Maroufy, V.** (2022). A novel group of genes that cause endocrine resistance in breast cancer identified by dynamic gene expression analysis. *Oncotarget*, 13, 600.
- Mubashir, T., Lai, H., Oduguwa, E., Chaudhry, R., Balogh, J., Williams, G.W., and **Maroufy, V.** (2022) Effect of tracheostomy timing on outcomes in patients with traumatic brain injury: *Baylor University Medical Center Proceedings* 35 (5), 621-628.
- Maroufy, V.**, Shah, P., Asghari, et al. (2020). Gene Expression Dynamic Analysis Reveals Co-activation of Sonic Hedgehog and Epidermal Growth Factor Followed by Dynamic Silencing. *Oncotarget*, 11(15), 1358.
- Williams G, **Maroufy V**, Rasmy L, DeSantis SM., et al. (2020), Vasopressor Treatment and Mortality Following Nontraumatic Subarachnoid Hemorrhage: a Nationwide Electronic Health Record Analysis. *Neurosurgical Focus*. 1;48(5):E4.
- Day, J., Rahulan, L. M., ..., **Maroufy, V** & Gupta, L. (2026). Multicentre international audit of IMACS malignancy screening guidelines in idiopathic inflammatory myopathies: insights from the myositis audit and research collaborative group. *RMD open*, 12(3).
- Minikumari Rahulan, L., **Maroufy, V.**, Agarwal, V., & Gupta, L. (2026). Patient–physician discordance in idiopathic inflammatory myopathies: a longitudinal analysis of links to disease activity and damage. *Rheumatology*, 65(6), keag298.
- Nariman, N. H., Hossain, M. F., Hasan, K. M., **Maroufy, V.**, ... & Haque, M. E. (2026). Impaired Glymphatic Function and Post-stroke Cognitive Decline after Intracerebral Hemorrhage: A Serial Neuroimaging Study. *Translational Stroke Research*, 17(3), 62.
- Musfee, F.I., Agarwal, S., **Maroufy, V.**, et al, (2026). Cardiometabolic indicators of cognitive impairment in the Cameron County Hispanic Cohort. *Journal of Alzheimer’s Disease*, 109(4), pp.1663-1673.
- Fernandez-Esquer, M. E., Pinzon-Gomez, C. L., Monforton, C., Li, Y., **Maroufy, V.**, Ojeda, M., & Rodriguez, A. (2025). Hazardous work exposures and working conditions and the risk of serious injury among Latino day laborers in Houston, Texas (2014–2021). *Frontiers in Public Health*, 13, 1638490.
- Testa, A., Mijares, L., Santos, M.R., **Maroufy, V.**, Jackson, D.B., Samper-Ternent, R., Mungia, R. and Neumann, A.C., 2025. Dental care trajectories among formerly incarcerated older adults in the United States. *PloS one*, 20(4), p.e0320658.
- Li, X., Wells, R.S., Cervin, A., **Maroufy, V.** and Shegog, R., 2025. Associations between physician–hospital integration and US acute care hospital financial performance. *Health Care Management Review*, 50(4), pp.337-346.
- Roberts, A.W., **Maroufy, V.**, Salazar, A., et al.(2025). Revisiting the Hadlock 1991 Population Reference for Estimated Fetal Weight. *American Journal of Obstetrics and Gynecology*.
- Yomono, K., Li, Y., **Maroufy, V.**, et al, (2025). Reduced Health-Related Quality of Life in Patients With Systemic Sclerosis: A Cross-Sectional Analysis of PROMIS Global Health Data From the International COVAD-2 e-Survey. *International journal of rheumatic diseases*, 28(2), p.e70101.
<https://doi.org/10.1016/j.amepre.2024.06.023>

- Abe, S., LI, Y., **Maroufy, V.**, et. al, (2024). Pos1231 Impaired Health-Related Quality of Life in Patients with Idiopathic Inflammatory Myopathies: A Cross-Sectional Analysis from an International E-Survey. *Annals of the Rheumatic Diseases* 82, pp.952-953.
- Yoshida, A., Li, Y., **Maroufy, V.**, ..., Gupta, L., (2024) Impaired health-related quality of life in patients with idiopathic inflammatory myopathies: A cross-sectional analysis from an international e-survey; *Rheumatology Advances in Practice* 8, (2).
- Boren, S. B., Savitz, S. I.,..., **Maroufy, V.**, Li, Y.,..., Haque, M. E., (2024) Longitudinal Morphometric Changes in the Corticospinal Tract Shape After Hemorrhagic Stroke *Translational Stroke Research* 15(5), pp.893-901.
- Mubashir, T., Ahmad, H., Lai, H., Chaudhry, R. **Maroufy, V.**, Balogh, J., Digbeu, B., Hwong, R., Chung, C., Williams, G., (2022) Effect of Obstructive Sleep Apnea on Outcomes after Traumatic Brain Injury: A Retrospective Cohort Analysis *Journal of Neurocritical Care* 1-8.
- Yu, D., Williams, G. W., Aguilar, D., Yamal, J. M., **Maroufy, V.**, Wang, X., ... and Wu, H. (2020). Machine learning prediction of the adverse outcome for nontraumatic subarachnoid hemorrhage patients. *Annals of clinical and translational neurology*, 7(11), 2178-2185.
- Yu D., Williams GW., Aguilar D., Yamal JM., **Maroufy V.**, et al. (2020) Machine learning prediction of the adverse outcome for nontraumatic subarachnoid hemorrhage patients, *Annals of Clinical and Translational Neurology*; 7(11):2178-85.
- Patra BG., Soltanalizadeh B., Deng N., Wu L., **Maroufy V.**, et al. (2020) An Informatics Research Platform to Make Public Gene Expression Time-Course Datasets Reusable for More Scientific Discoveries. *Database* 2020
- Brown DW, DeSantis SM, Greene TJ, **Maroufy V.**, et al. A Novel Approach for Propensity Score Matching and Stratification for Multiple Treatments: Application to an Electronic Health Record-derived Study. *Stat Med.* (2020);39(17): 2308-2323. doi:10.1002/sim.8540
- Patra BG., **Maroufy V.**, Soltanalizadeh B., Deng N., Zheng WJ., Roberts K., and Wu H. (2020). A Content-Based Literature Recommendation System for Datasets to Improve Data Reusability-A Case Study on Gene Expression Omnibus (GEO) Datasets. *Journal of Biomedical Informatics*, 103399.

For a full list of publications, see my profile at [Google Scholar](#)

Books

Wu, H., Yamal, J. M., Yaseen, A., & **Maroufy, V.** (Eds.). (2020). *Statistics and Machine Learning Methods for EHR Data: From Data Extraction to Data Analytics. CRC Press.*

Book Chapters

- Talebi, Y., Feng, H., Huang, Y., and **Maroufy, V.**, Chapter 4: EHR Data Cleaning (2020), in *Statistics and Machine Learning Methods for EHR Data: From Data Extraction to Data Analytics. CRC Press.*
- Zhang, C., Chen, B., **Maroufy, V.**, Wu, H., Chapter 6: Missing Data Issues in Electronic Health Records (2020), in *Statistics and Machine Learning Methods for EHR Data: From Data Extraction to Data Analytics. CRC Press.*
- Zhu, G., Brito, F., **Maroufy, V.**, DeSantis, S. Chapter 8: EHR Data Exploration, Analysis and Predictions (2020), *Statistics and Machine Learning Methods for EHR Data: From Data Extraction to Data Analytics. CRC Press.*

Maroufy V., Marriott P. (2019) Generalising Frailty Assumptions in Survival Analysis: A Geometric Approach. In: Nielsen F. (eds) Geometric Structures of Information. *Signals and Communication Technology*. Springer, Cham. https://doi.org/10.1007/978-3-030-02520-5_7

Maroufy V. and Marriott P., (2015) Computing Boundaries in Local Mixture Models. *Geometric Science of Information, Lecture Notes in Computer Science, 9389*. p 577-585.

Teaching

Generalized Linear Models Instructor, UTHealth Houston School of Public Health Graduate course (MS/PhD)	2020–Present
Applied Statistical Modeling Instructor, UTHealth Houston School of Public Health Graduate course (MS)	2018–Present
Statistical Inference and Modeling Instructor, University of Waterloo Undergraduate course	2016–2017

Educational Committee and curriculum development

Teaching Excellence Committee Member, Department of Biostatistics and Data Science Contributed to departmental teaching assessment, monitoring, and policy development.	2021–Present
PhD Preliminary Examination Committee Member, Department of Biostatistics and Data Science Designed and graded examination questions and contributed to examination policy development.	2021–Present
Curriculum Development Committee Member, Department of Biostatistics and Data Science Contributed to the development, evaluation, and ongoing review of Biostatistics degree and certificate curricula.	2021–Present

Graduate Student Mentoring and Advising

PhD Dissertation Supervision and Dissertation Committees

Supervisor / chair

- **Mengyu Zhang** (Chair): *Large-Scale Association Tests for Genome-Wide Association Studies*.
- **Yixiao Chen** (Supervisor) *Bayesian Analytic methods for Dual-Criteria and sequential Designs with Sample Size determination*.
- **Jie Liang** (Supervisor) *Evaluating the Error bound and precision for CNNs under adversarial attack*.
- **Mina Salarzadeh** (Supervisor): *Multivariate Bayesian Adaptive Random Tree (BART) model for correlated efficacy and Toxicity*.

- **Ehsan Fayyazishishavan** (Supervisor): *Artificial Intelligence (AI) in Bayesian Optimal Interval (BOIN) designs with Bayesian Adaptive Random Tree (BART) model.*

Committee Member / Statistical Advisor

- **Zixi Yang:** *Spatiotemporal Deep Learning for Longitudinal Structural Brain MRI: Lesion Segmentation and Survival-Based Risk Modeling of Alzheimer's Disease*
- **Xiao (Lilac) Li:** *The Association Between Physician-Hospital Integration and the Performance of Acute Care Hospitals.*
- **Caitlin Cotter:** *Impacts of COVID-19 Infection and Vaccination on the Intestinal Microbiome: A Cohort Study 2018-2022.*
- **Kate Wall** *Multimodal Deep Learning for sMRI Classification.*
- **Maosen Peng:** *Advancements in Propensity Score Estimation: The Development, Implementation, and Extension of LBC-Net*
- **Erinne Okechukwu:** *Insulin Resistance and Cardiometabolic Diseases in the Hispanic Population of Cameron County, Texas*
- **Cesar Pinzon-Gomez:** *Exploring Formal and Informal Work Phenotypes and Their Associations With General Health in Hispanic Workers*
- **Ryan Whitworth:** *Self-Reported Sickness Absence and Presenteeism in the European Union and the United States.*
- **Trevor Maness:** *Distribution and Determinants of Spotted Fever Rickettsiosis in Missouri From 2009 to 2016.*
- **Najha Black:** *The Association Between Non-Medical Drivers of Health and Obesity in Adults With Systemic Lupus Erythematosus: Findings From the Georgians Organized Against Lupus Cohort.*
- **Chenguang Zhang:** *Missing Data Imputation Methods for Electronic Health Records (EHR) Data.*
- **Michelle Klawans:** *Marijuana Use During Pregnancy and Associations With Experience of Nausea and Vomiting: Findings From the National Birth Defects Prevention Study.*
- **Anjolaoluwa Olunaike:** *Biculturalism, Vaping, Social Media Use and Perceptions of Vaping Content Among Mexican-American College Students.*
- **Alex Devora :** *The Monthly Cycle of Hypoglycemia: The Role of Food Insecurity in Bexar County, Texas.*
- **Bo Zhang:** *Order-Restricted Rolling Platform Trial Designs with Non-Concurrent Controls and Drift-Robust Inference.*
- **Bo Zhao:** *Comorbidity Network Analysis using Machine Learning and Deep Learning Method.*

Master's Thesis Supervision and Committees

Supervisor

- **Boyan Leng:** *Integrating Genetics and Epigenetic Signals for the Discovery of Key Gene Interactions in Alzheimer's Disease.*
- **Kaylan Hill:** *Exploring the Relationship Between Retirement, Financial Well-Being, and Health Outcomes in Aging Individuals.*
- **Zhongyi Li:** *Global Mixture Models via Fisher Information and Chebyshev Inequalities*
- **Hongyin Lai:** *Effects of Racial/Ethnic and Income Disparities on Clinical Outcomes Among Traumatic Brain Injury Patients.*

- **Biai Dominique Elmir Digbeu:** *A Comparison of Two Methods of Automated Reminders/Recalls Interventions to Improve the Appointment Rate of Adolescent Wellness Care Visits Among Publicly Insured Adolescents Aged 12 to 21 Years Old.*

Committee Member

- **Saipranathi Gunda:** *Risk Factors of Dementia After Acute Ischemic Stroke.*
- **Shwetha Kumar** *A Pan-Cancer Analysis of TP53 Pathway Inactivation: Identification of Potential Targeted Therapies—A Retrospective Cohort Study.*
- **Sandra Shin:** *Associations Between Common Chronic Diseases and Poor Mental Health.*

EDITORIAL ACTIVITIES

- Journal of American Heart Association (JAHA) **Statistical Editor** 2023-current
- Journal of American Heart Association (JAHA) Statistical reviewer 2021-2023
- Annals of Clinical and Transnational Neurology
- Statistics in Medicine
- Statistics and Its Interface

AWARDS, HONORS & SCHOLARSHIPS

- SSC Travel Grant and Honorary Presentation Award, 2013.
- International Doctorate Student Award, 2009-2012.
- Mathematics Senate Graduate Scholarship, 2012.
- Statistics and Actuarial Science Chair's Award, 2011-2012.
- CRISM Bursary for presentation at WOGAS3 Workshop, 2011.
- Mathematics Graduate Experience Award, 2010-2011.
- University of Waterloo Graduate Scholarship, 2011.
- Rank First in MSc. Studies.

TECHNICAL SKILLS

Programming: R, Matlab