

Taehyo Kim

RESEARCH FOCUS	DL / AI in Healthcare, High-Dimensional Statistics, Multi-Modal Representation Learning		
CONTACT INFORMATION	1411 31st Avenue Astoria, New York 11106	tk2737@nyu.edu	   
EDUCATION	New York University , New York, NY Ph.D. in Biostatistics • Dissertation: <i>Modern Statistical Machine Learning Approaches for Alzheimer's Disease Research</i> • Advisor: Dr. Hai Shu Expected January 2027 M.S. in Computer Science • Capstone: <i>An Apple Watch application for anxiety attack monitoring and detection</i> [Code] June 2022 University of Toronto , Toronto, ON B.A.Sc in Computer Engineering, minor in Biomedical Engineering June 2020		
HONORS AND AWARDS	Runner-up Student Paper Award, ASA Statistics in Imaging Section	2024	
	DataFest Finalist, Eastern North American Region of the International Biometric Society	2024	
	Student Travel Award, American Statistical Association	2024	
	PhD Fellowship Award, New York University	2022	
	Certificate for Artificial Intelligence Engineering, University of Toronto	2020	
	International Summer Research Award, University of Toronto	2019	
	Gold Award, The Duke of Edinburgh's Award	2015	
SKILLS	Programming: Python, R, C++, C, C#, Java, MATLAB, Shell Frameworks: PyTorch, TensorFlow, Keras, OpenCV, Git, Spark, Hadoop, Numba, JAX Machine Learning: GLM, PCA, CCA, Random Forest, MLP, CNN, U-Net, W-Net, Transformers, Masked Autoencoders, Video Vision Transformers, Diffusion Models, Self-Supervised Learning		
PROFESSIONAL EXPERIENCE	Graduate Student Researcher Hai Shu Lab • Developed statistical machine learning methods for high-dimensional biomedical data for use in multiple hypothesis testing, sparse canonical correlation analysis, and survival modeling. 2020 - present New York, NY Graduate Student Researcher Biofeedback Intervention Technology for Speech Lab, NYU Steinhardt • Applied self-supervised learning (ViViT-based BYOL, VideoMAE) to identify articulatory differences in clinically inaccurate /r/ pronunciations in children with speech sound disorders. 2024 - present New York, NY Statistical Fellow Biostatistical Collaboration and Consultation Core, NYU GPH • Prepared statistical analysis plans for clients and conducted statistical data analyses to support manuscript development. Summer 2024 New York, NY Undergraduate Research Assistant Multimedia Laboratory, UofT • Applied deep learning to classify histological tissue types and co-authored a large-scale survey on computational pathology analyzing over 800 papers. Summer 2020 Toronto, ON		

	Software Developer Intern N.1 Institute for Health <ul style="list-style-type: none"> Wrote MATLAB functions to automate cleaning and quality checks for a 76TB neural dataset. 	Summer 2019 Kent Ridge, Singapore
	Software Developer Intern Epson <ul style="list-style-type: none"> Released the Android and Windows Software Development Kit (SDK) designed for augmented reality smart-glasses, using Alpha and unit testing standards. 	May 2018 - May 2019 Markham, ON
PUBLICATIONS	<p>Kim, T., Jia, Q., de Leon, M. J., Shu, H. (2025). A False Discovery Rate Control Method Using a Fully Connected Hidden Markov Random Field for Neuroimaging Data. arXiv preprint arXiv:2505.20688. Under Review at <i>Medical Image Analysis</i>. [Paper] [Code]</p> <p>Lai, A., Kim, T., Dahlen, A., Lomas, T. (2025). A Global Understanding of Work Enjoyment and Human Wellbeing. Under Review at <i>Nature Human Behavior</i>.</p> <p>Kim, T., Shu, H., Jia, Q., de Leon, M. J. (2024). DeepFDR: A Deep Learning-based False Discovery Rate Control Method for Neuroimaging Data. <i>Proceedings of Machine Learning Research</i>, 238, 946–954. [Paper] [Code]</p> <p>Tang, T., Chen, Y., Kim, T., Shu, H. (2024). UKAN-EP: Enhancing U-KAN with Efficient Attention and Pyramid Aggregation for 3D Multi-Modal MRI Brain Tumor Segmentation. arXiv preprint arXiv:2408.00273. Under Review at <i>BMC Medical Imaging</i>. [Paper] [Code]</p> <p>Hosseini, M. S., Bejnordi, B. E., Trinh, V. Q., Chan, L., Hasan, D., Li, X., Yang, S., Kim, T., Zhang, H., Wu, T., Chinniah, K., Maghsoudlou, S., Zhang, R., Zhu, J., Khaki, S., Buin, A., Chaji, F., Salehi, A., Nguyen, B. N., Samaras, D., . . . , Plataniotis, K. N. (2024). Computational Pathology: A Survey Review and the Way Forward. <i>Journal of Pathology Informatics</i>, 15, 100357. [Paper]</p>	
MANUSCRIPTS IN PREPARATION	<p>Kim, T., Shu, H. L0-IPLS: An L0 Penalized Sparse Canonical Correlation Analysis Method with Application to High-Dimensional Imaging-Omics Data.</p> <p>Chen, Y.*, Kim, T.*, Chen, Z., Patippe, C. Causal Determinants of Blood Pressure Control among US Adults with Hypertension: A Data-Driven Causal Graphical Learning, NHANES 2013 to 2023</p> <p>Eads, A., Benway, N., Kim, T., McFee, B., Preston, J., Shu, H., McAllister, T. Enhancing AI-based Speech Therapy through Acoustic to Articulatory Mapping.</p> <p>Chen, Y., Kim, T., Shu, H., Feng Y. Transfer-guided Conditional Score-based Diffusion Network for Replenishment Sampling Imputation.</p> <p>Kim, H., Cardoso, D. d. M., Kayahara, G. M., Kim, T., Shu, H., Bernabé, D. G., Ye, Y. Pre-treatment pain phenotypes and their association with disease progression and post-treatment pain in head and neck cancer.</p>	
TALKS AND PRESENTATIONS	<p>“A Global Understanding of Work Enjoyment and Human Wellbeing” Poster, Joint Statistical Meetings, Portland, OR</p> <p>“Causal Determinants of Blood Pressure Control among US Adults with Hypertension: A Data Driven Causal Graphical Learning, NHANES 2013 to 2023” Poster, ENAR Spring Meeting, New Orleans, LA</p> <p>“DeepFDR: A Deep Learning-based False Discovery Rate Control Method for Neuroimaging Data”</p>	<p>August 2025</p> <p>March 2025</p>

Oral, Joint Statistical Meetings, Portland, OR	August 2024
“DeepFDR: A Deep Learning-based False Discovery Rate Control Method for Neuroimaging Data” Poster, International Conference in Artificial Intelligence and Statistics, Valencia, Spain May 2024	
“Enhancing AI-based Speech Therapy through Acoustic to Articulatory Mapping” Poster, AI Research Symposium: Bridging AI Innovation and Societal Impact New York, NY	April 2024
“Machine Learning-driven Risk Factor Identification on Post-2013 Blood Pressure Control Decline in Hypertensive Populations” Oral, ENAR Spring Meeting, Baltimore, MD	March 2024

TEACHING
EXPERIENCE

Teaching Assistant , New York University, New York, NY	
Applied Bayesian Analysis in Public Health (GPH-GU 2272/3372)	Fall 2024
Applied Survival Analysis (GPH-GU 2368/3368)	Spring 2024
Statistical Inference (GPH-GU 3225)	Fall 2023
Graduate Student Mentor , New York University, New York, NY	
Pathways into Quantitative Aging Research Summer Program	Summer 2024
Pathways into Quantitative Aging Research Summer Program	Summer 2022