KENDALL ALEXANDER REID

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EDUCATION

Johns Hopkins University — Baltimore, MD
M.S., Bioinformatics — Fall 2024 - Summer 2026

University of Maryland — College Park, MD
Post-baccalaureate, Biology and Chemistry — 2021 - 2024

Rutgers University — New Brunswick, NJ
Post-baccalaureate, Computer Science — 2018 - 2019

Rutgers University — New Brunswick, NJ
B.A., Mathematics and Economics — 2013 - 2017
Summa Cum Laude
Thesis: *A High-Frequency Methodology for Studying Sector Volatility Transmission*

Awards

Henry Rutgers Scholar Award for outstanding research paper
John C. Daniels Award for outstanding achievement in economics
Milton Friedman Distinguished Scholar

RESEARCH AND WORK EXPERIENCE

Johns Hopkins University — *Baltimore, MD*
Senior Programmer Analyst, Biostatistics and Neuroscience — *September 2025-Present*

- *First-author of a comprehensive benchmarking paper on single-cell disentanglement methods, developing novel metrics for algorithmic stability and robustness to biological noise.*
- *First-author of a literature review on the application of disentanglement methods to single-cell data analysis.*
- *Second-author and lead bioinformaticist for a project applying disentanglement to ALS/FTD research; designing and implementing methods to investigate neuro-scientific hypotheses.*

Johns Hopkins University — *Baltimore, MD*
Volunteer Researcher, Masters Student — *September 2024-Present*

- *Co-mentored a masters in biostatistics student through a thesis on generative modeling in single-cell data analysis with Dr. Brian Caffo; this student was subsequently admitted to a PhD program at the University of Chicago.*
- *Led project in collaboration with Broad institute applying blended genome-exome polygenic risk scoring of ketamine drug response for drug resistant depression with Dr. Fernando Goes.*
- *Collaborated on a project exploring the use of integrated diffusion trajectories to characterize the energy of generated proteins with Dr. Jeffrey Gray.*

Johns Hopkins University — *Baltimore, MD*
Programmer Analyst, Epidemiology — *June 2024-September 2025*

- *Developed a parallelized agent-based simulation library for HIV population dynamics using Dask, improving performance by 10,000× over prior implementation.*
- *Led machine learning interpretability efforts for a publication modeling virologic failure in HIV patients which resulted in multiple departmental presentations.*
- *Coauthored a paper using HIV simulation library to forecast the impact of BMI intervention on diabetes outcomes.*
- *Helped form and lead a computational epidemiology working group to tackle the hardest engineering problems faced by the simulation researchers; this led to a first-author paper highlighting the ways in which software engineering tools can improve computational epidemiology workflows.*

Children's National Medical Center *Washington, DC*
Research Assistant, Orthopedic Surgery *May 2022-June 2024*

- *Coordinated a cross disciplinary health informatics investigation exploring trends in hospital throughput across age resulting in presentation to the executive leadership team.*
- *Coordinated the Osteogenesis Imperfecta Longitudinal study, ensuring accurate and precise data collection from 50 patients.*
- *Initiated an industry-sponsored drug trial for Setrusumab aiming to reduce fracture risk in patients with Osteogenesis Imperfecta.*
- *Inherited and oversaw the completion of drug trials for Burosumab, a drug treatment for cutaneous skeletal hypophosphatemia syndrome.*
- *Coauthored journal research paper currently in review, and poster presented at Children's Research and Innovation Week.*
- *Initiated and oversaw research projects for current medical students performing Single Nucleotide Polymorphisms on muscle phenotype data, resulting in presentation at Orthopedic Research Society.*

Productivity Industries *San Francisco, CA*
Co-Founder, Data Scientist, Computer Vision and Natural Language Processing *January 2019-January 2021*

- *Combined state-of-the-art research in the creation of a document parsing algorithm surpassing previous industry and academic benchmarks.*
- *Collaborated with backend and front-end engineers to ensure that the results of the deep learning algorithm were processed quickly, efficiently, and displayed properly to the customer.*
- *Created a continuous integration cloud framework for training, testing, and deploying deep learning models.*
- *Managed the technology road-map, stakeholder expectation, and delivery of data science products.*

Iunu *Seattle, WA*
Data Scientist, Computer Vision and Artificial Intelligence *June 2017-July 2018*

- *Developed a deep learning pipeline to measure the amount of plant material in a multi-spectral image and predict total plant yield from a time series of images.*
- *Grew the data science team from myself to 6 engineers and data scientists, resulting in promotion to team lead.*
- *Created personal improvement plans for each member of the team to ensure personal growth.*

- *Collaborated with the other technical team leads in robotics and web development to deliver product.*

TECHNICAL

Programming
Python, SQL, LaTeX

Data Science
Pytorch, Tensorflow, PyTorch Lightning, OpenCV, scikit-learn, numpy, pandas, matplotlib, Seaborn, Hugging Face, scverse

Software Development
SLURM, git, Dask, Linux, Docker, SnakeMake, Nextflow, github actions, pytest

Research Topics
Generative Artificial Intelligence, Bioinformatics, RNA-seq Modeling

Research Skills
Grant Writing, Technical Writing

TEXTBOOKS

***Kendall Reid**, Brian Caffo. "An Introduction to AI for Statisticians in Python" [Work in Progress, Springer].*

JOURNAL PUBLICATIONS

Published

*Tosi, Laura L., Templeton, Kimberly, Pennington, Andrew M., **Reid, Kendall A.**, and Boyan, Barbara D. "Influence of Sex and Gender on Musculoskeletal Conditions and How They Are Reported." The Journal of Bone and Joint Surgery 106(16):p 1512-1519, August 21, 2024.*

In Review

*Tosi, Laura L., Rafa, Elmer, **Reid, Kendall A.**, Pennington, Andrew, Gafni, Rachel I. "Burosumab Treatment In An Adult With FGF23-Mediated Hypophosphatemia Due to Cutaneous Skeletal Hypophosphatemia Syndrome" [Submitted to Journal of the Endocrine Society].*

Preprint

***Kendall Reid**, Erhan Guven. "Wasserstein Critics Outperform Discriminators in Adversarial Deconfounding of Gene Expression Data." bioRxiv. doi:10.1101/2025.11.12.688061 [In Preparation for ICML GenBio].*

*Parastu Kasaie, Yao Zhao, Elizabeth Humes, **Kendall Reid**, Lucas Gerace, Catherine R. Lesko, Katherine Kurgansky, Kristine M. Erlandson, Kelly Gebo, Kristine Elderson , Keri N Althoff. "Impact of an Early Body Mass Index Maintenance Intervention at ART initiation on Diabetes Risk: Insights from a Simulation Study." medRxiv, Cold Spring Harbor Laboratory Press, 2025, https://doi.org/10.1101/2025.11.05.25339607. [Submitted to Journal of Acquired Immune Deficiency Syndromes].*

*Sundeep Sarma, Harrison Truscott , Da Xu, **Kendall Reid**, Lee-Sin Chu, Jacky Chen, Jeffrey Gray. "Can we extract physics-like energies from protein generating diffusion models?" bioRxiv. doi:10.1101/2025.11.28.690021.*

In Preparation

***Kendall Reid**, Fernando Goes. "A Blended Genome-Exome Polygenic Risk Scoring of Ketamine Response in Patients with Drug Resistant Depression." [In Preparation for JAMA Psychiatry].*

***Kendall Reid**, Parastu Kasaie. "Advancing Computational Models in Epidemiology: Lessons Learned in Enhancing Research Efficiency and Reproducibility." [In Preparation for Epidemics].*

Current Work

***Kendall Reid**, Hunter Giles, Carlo Colantuoni, Brian Caffo, Genevieve Stein-O'Brien. "Benchmarking Computational Methods for Disentangled Representation Learning in Single-Cell Data".*

***Kendall Reid**, Genevieve Stein-O'Brien. "A Review of Disentangled Representation Learning for Single-Cell Data Analysis".*

*Hunter Giles, **Kendall Reid**, Carlo Colantuoni, Brian Caffo, Genevieve Stein-O'Brien. "Investigating Disentanglement Methods for ALS and FTD Biomarker Discovery.".*

*Yao Zhao, **Kendall Reid**, Elizabeth Humes, Chunyan Zheng, Lucas Gerace, Kelly A. Gebo, Keri N Althoff, Parastu Kasaie. "A Hybrid Machine Learning Model for Simulating Initial Antiretroviral Therapy Regimens in the US.".*

*Keri Althoff, Madeline Brooks, **Kendall Reid**, Zhao Yao, Elizabeth Humes, Yanxun Xu. "Can a deep neural network approach to a well-researched question bring new insights? Identifying what influences virologic failure in people with HIV in the US and Canada.".*

PRESENTATIONS

Conference Presentations

Johns Hopkins University Data Science and Artificial Intelligence "Human + AI: Redefining the Standard of Care in Medicine." "Do machine learning and traditional regression models identify the same influential risk factors? A case study of virologic failure in people with HIV" December 2025, Baltimore, Maryland.

Johns Hopkins University Bloomberg Public Health and AI Strategic Endeavors AI Research Day. "Can Random Forests and Deep Neural Networks Add Something New to Our Understanding of Correlates of Virologic Failure in Adults with HIV? A Multidisciplinary Team and a Comparison of Approaches" February 2025, Baltimore, Maryland.

Children's Research, Education, and Innovation Week. "Somewhere to Go for Adults with Childhood-Onset Rare Diseases: A Conversation About How We Can Fill Gaps in Care" March 2024, Washington, DC.

Children's Research, Education, and Innovation Week. "Influence of Genetic Variation within the TGF-a and GDF5 gene on Muscle Mass and Strength in Young Adults" March 2024, Washington, DC.

Orthopedic Research Society. "Influence of Genetic Variation Within the WNT16 Gene on Musculoskeletal Phenotypes in Young Adults" February 2023, Dallas, Texas.

Orthopedic Research Society. "Genetic Variation in VDBP rs4588 Influences Musculoskeletal Phenotypes" February 2023, Dallas, Texas.

Children's Research, Education, and Innovation Week. "Three Years' Safety and Efficacy Outcomes of Burosumab in Cutaneous Skeletal Hypophosphatemia Syndrome (CSHS)" March 2023, Washington, DC.

Children's Research, Education, and Innovation Week. "Using Virtual Communication for Rapid Dissemination of COVID19 Information to Patients with Osteogenesis Imperfecta" March 2023, Washington, DC.

Children's Research, Education, and Innovation Week. "Engaging the Osteogenesis Imperfecta (OI) Community in Patient Centered Outcomes Research" March 2023, Washington, DC.