

Paolo Lambre

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Education

DePaul University, B.S. Mathematics and Computer Science, Minor in Data Science, 2022 – Expected June 2026

Awards: Presidential Scholarship, Dean's List, Merkes Family Scholarship

Extracurriculars: ASA-STATCOM, Computer Science Society, Math Club, Students Against Incarceration

Selected Coursework: Probability and Statistics (I, III), Time Series Analysis and Forecasting, Stochastic Processes, Optimization Theory, Advanced Data Analysis, Biostatistics, Machine Learning, Database Systems

Experience

Bioinformatics Researcher, DePaul Applied and Computational Bioinformatics Lab

January 2025 – Present

- Conducted literature review to design statistical workflows for single-cell spatial transcriptomics analysis.
- Investigated spatial relationships between gene expression and neuroanatomical structure in the brainstem using imaging analysis and spatial statistics.
- Developed scalable Python and R pipelines using Git to streamline gene expression and imaging analysis.
- Applied PCA, multidimensional scaling, t-SNE, and UMAP for high-dimensional data exploration and visualization.
- Identified region-specific gene expression patterns using point pattern analysis, cluster detection, and spatially varying gene identification methods.
- Co-authored paper accepted to ICBCB 2026; presented findings at university research symposium.

Statistical Epidemiology Researcher, Khomtchouk Lab, Indiana University Luddy School of Informatics

March 2025 – October 2025

- Designed and analyzed epidemiologic studies involving high-dimensional and incomplete survey, genomic, and longitudinal data.
- Implemented multiple imputation and pattern-mixture models to address missing data under high uncertainty.
- Estimated causal effects of risk factors on disease progression using DAG-based modeling, structural equation models, and Bayesian inference.
- Performed meta-analysis and stochastic simulation to synthesize literature-derived parameter estimates for risk modeling.
- Delivered technical reports and presentations under strict research timelines.

Volunteer, Midwest Books to Prisoners

February 2026

- Read requests for books and made personalized selections based on preferences and availability.
- Filled forms, packaged, and shipped books according to guidelines.

Skills

Languages: R, SAS, SQL, MATLAB, Python, Scala, Java, C++

Tools: Apache Spark, Jupyter Notebook, Git, UNIX, Excel, PowerPoint, Word