

Philippe Chlenski | Mechanistic interpretability researcher

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Education

Columbia University PhD Computer Science	2025
○ Dissertation: Non-Euclidean representation learning with applications to metagenomics	
○ NSF Graduate Research Fellowship (GRFP) awarded in 2021	
Yale University BA Mathematics & Philosophy	2018
Deep Springs College AA Liberal Arts	2014

Experience

Meta Research Scientist	Sep 2025–Present
○ Contribute mechanistic interpretability tooling to the open-source Captum library in the PyTorch ecosystem.	
Apple AI and Machine Learning Intern	Apr 2025–Aug 2025
○ Developed machine learning models for time series forecasting, focusing on rare event accuracy.	
○ Collaborated with teams to apply models to business cases in supply, finance, sales, and operations.	
Columbia University Graduate Research Assistant Advisor: Itzik Pe'er	Sep 2020–Aug 2025
○ Adapted machine learning methods for non-Euclidean data using PyTorch.	
○ Built Python packages to model microbial growth rates in diverse data regimes.	
○ Improved Bayesian phylogenetic inference algorithms using Sequential Monte Carlo.	
○ Planned and supervised 25 semester-long machine learning projects for 18 students.	
ML Alignment and Theory Scholars Scholar Mentor: Neel Nanda , Google DeepMind	Nov 2023–Mar 2024
○ Explored linear approximations for computing feature activations in sparse autoencoders.	
○ Conducted the first full study of transcoders, a sparse autoencoder variant for circuit analysis.	
Uber PhD Machine Learning Engineer Intern	May 2022–Aug 2022
○ Developed a custom deep learning model for real-time fraud detection using Tensorflow.	
○ Productionized model using Apache Spark and Docker, saving >\$30,000 weekly in refund losses.	
Argonne National Laboratory Researcher Mentor: Ross Overbeek	Oct 2018–Aug 2020
○ Extended RASTtk pipeline with deep learning models serving >100,000 users monthly.	
○ Developed AI pipeline to accelerate <i>E. coli</i> strain engineering for threonine production.	

Selected Publications (Full list: [Google Scholar](#))

1. **Chlenski**, Chu, Khan, Du, Moretti, and Pe'er. [Mixed-curvature decision trees and random forests](#). *ICML* 2025.
2. **Chlenski**, Turok, Moretti, and Pe'er. [Fast hyperboloid decision tree algorithms](#). *ICLR* 2024.
3. **Chlenski***, Dunefsky*, and Nanda. [Transcoders find interpretable LLM feature circuits](#). *NeurIPS* 2024.
4. Khan, **Chlenski**, and Pe'er. [Hyperbolic genome embeddings](#). *ICLR* 2025.
5. Chen, **Chlenski**, Munyuza, Moretti, Naesseth, and Pe'er. [Variational combinatorial sequential Monte Carlo for Bayesian phylogenetics in hyperbolic space](#). *AISTATS* 2025.
6. **Chlenski**, Hsu, and Pe'er. [MiSDEED: a synthetic data engine for microbiome study power analysis and study design](#). *Bioinformatics Advances* 2022.
7. T Joseph, **P Chlenski**, A Litman, T Korem, and I Pe'er. [Accurate and robust inference of microbial growth dynamics from metagenomic sequencing reveals personalized growth rates](#). *Genome Research* 2022.
8. J Davis et al. [The PATRIC Bioinformatics Resource Center: Expanding data and analysis capabilities](#). *Nucleic Acids Research* 2020.
9. Hanke et al. [Engineering of increased L-Threonine production in bacteria by combinatorial cloning and machine learning](#). *Metabolic Engineering Communications* 2023.

Teaching Experience

Columbia University: Instructor, Computing in Context; Head Teaching Fellow, Computational Genomics
Barnard College: Instructor, Intro to Microbial Genomics (2x)