

JACQUELINE R. M. A. MAASCH

CONTACT	✉ MAASCH@CS.CORNELL.EDU in LINKEDIN G JMAASCH.GITHUB.IO G GOOGLE SCHOLAR	
EDUCATION	05.2026	Cornell Tech New York, NY Doctor of Philosophy in Computer Science (anticipated)
	05.2024	MS in Computer Science, conferred on PhD candidacy GPA 3.98 Areas: AI / ML, Scientific Computing, Applied Probability & Statistics <i>NSF Graduate Research Fellow Presidential Life Science Fellow</i>
	05.2021	University of Pennsylvania Philadelphia, PA Master of Computer & Information Technology GPA 3.97 <i>Interdisciplinary Innovation Fellow Reproducible Research Fellow</i>
	05.2016	Smith College Northampton, MA BA Anthropology (Biological, Medical), Environmental Science GPA 3.97 <i>Summa Cum Laude Phi Beta Kappa Sigma Xi</i>
EXPERIENCE	05.2024 – 08.2024	Research Intern <i>Microsoft Research (MSR) Machine Intelligence Core Cambridge, UK</i> <i>PI: Dr. Aditya Nori, Dr. Javier González.</i> Novel methods in AI reasoning.
	05.2022 – 08.2022	Clinical Data Science Intern <i>Boehringer Ingelheim Global Biostatistics & Data Sciences Ridgefield, CT</i> <i>PI: Dr. Yi Liu.</i> Multimodal deep learning methods for survival analysis in pharmaceutical development.
	08.2021 – Present	PhD Student Researcher <i>Weill Cornell Medicine Institute of AI for Digital Health New York, NY</i> <i>PI: Dr. Fei Wang.</i> AI for clinical risk modeling, causal inference, target trial emulation, and computational biomedicine.
		<i>Cornell Tech Operations Research New York, NY</i> <i>PI: Dr. Kyra Gan.</i> Robust and efficient statistical inference, scalable causal discovery, and causal fairness in healthcare.
		<i>Cornell Tech Computer Science New York, NY</i> <i>PI: Dr. Volodymyr Kuleshov.</i> Core problems in generative and probabilistic modeling with applications to genomics and biomedicine.
	05.2020 – 07.2021	Master's Student Researcher <i>University of Pennsylvania Bioengineering Philadelphia, PA</i> <i>PI: Dr. César de la Fuente.</i> DOD-funded research on discriminative and generative ML for antibiotic discovery.
INTERESTS	Probabilistic graphical models; AI reasoning (compositional, causal); causal discovery; causal inference; causal fairness; graph theory; applied probability.	
LANGUAGES	<i>Proficient:</i> Python; R; \LaTeX . <i>Prior experience:</i> Java; C; JavaScript; MATLAB.	
TOOLS	<i>Frequently using:</i> sklearn; numpy; tidyverse; git; high-performance computing. <i>Prior experience:</i> PyTorch; TensorFlow; Stan.	

SELECT FELLOWSHIPS & AWARDS	2023	Cornell Tech Outstanding Service and Community Award
	2021	NSF Graduate Research Fellowship
	2021	Presidential Life Science Fellowship Cornell
	2021	Reproducible Research Fellowship OKFN, Alfred P. Sloan Foundation
	2020	Grace Hopper Celebration Scholarship UPenn
INVITED TALKS	10.24	INFORMS Annual Meeting Seattle, WA [SLIDES]
	07.24	Microsoft Research Machine Intelligence Core Cambridge, UK
	06.24	University of Cambridge Statistical Laboratory Cambridge, UK
	04.24	34th Annual POMS Conference Minneapolis, MN [SLIDES]
IN PREPARATION & UNDER REVIEW	2024	Kuleshov, V; Maasch, J ; Ermon, S. <i>Probabilistic Graphical Models: A Concise Tutorial</i> . In preparation for <i>Foundations & Trends in Machine Learning</i> .
	2024	Maasch, J ; et al. <i>Compositional Causal Reasoning</i> . Under review.
	2024	Hüyük, A; Xu, X; Maasch, J ; et al. <i>Reasoning Elicitation in Language Models via Counterfactual Feedback</i> . Under review. [ARXIV]
SELECT PEER-REVIEWED PUBLICATIONS (GOOGLE SCHOLAR)	2024	Maasch, J ; et al. <i>Local Causal Discovery for Structural Evidence of Direct Discrimination</i> . Proceedings of the 39th Annual AAAI Conference on Artificial Intelligence. [ARXIV] [SLIDES]
	2024	Hiremath, S; Maasch, J ; et al. <i>Hybrid Top-Down Global Causal Discovery with Local Search for Linear and Nonlinear Additive Noise Models</i> . Proceedings of the Thirty-Eighth Annual Conference on Neural Information Processing Systems (NeurIPS). [ARXIV]
	2024	Maasch, J ; et al. <i>Local Discovery by Partitioning: Polynomial-Time Causal Discovery Around Exposure-Outcome Pairs</i> . Proceedings of the 40th Conference on Uncertainty in Artificial Intelligence. [ARXIV] [SLIDES] [POSTER]
	2024	Pan, W; Su, C; Maasch, J ; et al. <i>Learning Phenotypic Associations for Parkinson's Disease with Longitudinal Clinical Records</i> . AMIA Summits on Translational Science Proc. American Medical Informatics Assoc. [NCBI]
	2023	Maasch, J* ; Torres, M*; et al. <i>Molecular de-extinction of ancient antimicrobial peptides enabled by machine learning</i> . Cell Host & Microbe. 31. 8. 1260-1274. e6. 2023. *Equal contribution. [CELL]
	2022	Melo, M*; Maasch, J* ; et al. <i>Machine Learning for Drug Discovery</i> . 2022. American Chemical Society. *Equal contribution. [GOOGLE BOOKS]
WORKSHOP PRESENTATIONS	2023	Maasch, J ; et al. <i>Local Discovery by Partitioning: Polynomial-Time Causal Discovery Around Exposure-Outcome Pairs</i> . NeurIPS Causal Representation Learning Workshop. [WORKSHOP] [ARXIV]
	2023	Maasch, J ; et al. <i>Regularized Data Programming with Automated Bayesian Prior Selection</i> . ICML Workshop on Structured Probabilistic Inference & Generative Modeling. [WORKSHOP] [ARXIV]
PROFESSIONAL ACTIVITIES	2024	Co-organizer, NYC Learning on Graphs Conference
	2024	Student leader, Cornell CS PhD Visit Days; Reviewer, PhD Admissions
	2023	Co-developer, Cornell CS 6006: Succeeding in the Graduate Environment
	2023	Founder / organizer, Cornell Causal Reading Group
PEER REVIEW	AI	AISTATS; ACL Rolling Review; ICML SPIGM; NeurIPS WiML.
	Bio	Communications Biology (Nature Portfolio); Journal of Biomedical Informatics (Elsevier); Bioinformatics (Oxford Academic); ACS Infectious Diseases.