

# JACQUELINE R. M. A. MAASCH

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EDUCATION	05.2026	<b>Cornell Tech   New York, NY</b> Doctor of Philosophy in Computer Science (anticipated)
	05.2024	MS in Computer Science, conferred on PhD candidacy   GPA 4.00 Areas: AI / ML, Scientific Computing, Applied Probability & Statistics <i>NSF Graduate Research Fellow   Presidential Life Science Fellow</i>
	05.2021	<b>University of Pennsylvania   Philadelphia, PA</b> Master of Computer & Information Technology   GPA 3.97 <i>Interdisciplinary Innovation Fellow   Reproducible Research Fellow</i>
	05.2016	<b>Smith College   Northampton, MA</b> BA Anthropology (Biological, Medical), Environmental Science   GPA 3.97 <i>Summa Cum Laude   Phi Beta Kappa   Sigma Xi</i>
EXPERIENCE	05.2024 – 08.2024	<b>Research Intern</b> <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	<b>Clinical Data Science Intern</b> <i>Boehringer Ingelheim Global Biostatistics &amp; Data Sciences   Ridgefield, CT</i> <i>PI: Dr. Yi Liu.</i> Multimodal deep learning methods for survival analysis in pharmaceutical development.
	08.2021 – Present	<b>PhD Student Researcher</b> <i>Weill Cornell Medicine <a href="#">Institute of AI for Digital Health</a>   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	<b>Master's Student Researcher</b> <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; causal discovery; causal inference; causal fairness; graph theory; applied probability; computational biomedicine; AI4Science.	
LANGUAGES	<i>Proficient:</i> Python; R; $\text{\LaTeX}$ . <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 PEER-REVIEWED PUBLICATIONS ( <a href="#">GOOGLE</a> <a href="#">SCHOLAR</a> )	2025	<a href="#">ICLR - ORAL - TOP 1.8%</a> Hüyük, A; Xu, X; <b>Maasch, J</b> ; et al. <i>Reasoning Elicitation in Language Models via Counterfactual Feedback</i> . 13 <sup>th</sup> International Conference on Learning Representations. [ <a href="#">ARXIV</a> ]
	2025	<a href="#">AAAI</a> <b>Maasch, J</b> ; et al. <i>Local Causal Discovery for Structural Evidence of Direct Discrimination</i> . 39 <sup>th</sup> Annual AAAI Conference on Artificial Intelligence. [ <a href="#">ARXIV</a> ] [ <a href="#">SLIDES</a> ] [ <a href="#">POSTER</a> ]
	2024	<a href="#">NEURIPS</a> Hiremath, S; <b>Maasch, J</b> ; et al. <i>Hybrid Top-Down Global Causal Discovery with Local Search for Linear and Nonlinear Additive Noise Models</i> . 38 <sup>th</sup> Annual Conference on Neural Information Processing Systems. [ <a href="#">ARXIV</a> ]
	2024	<a href="#">UAI</a> <b>Maasch, J</b> ; et al. <i>Local Discovery by Partitioning: Polynomial-Time Causal Discovery Around Exposure-Outcome Pairs</i> . 40 <sup>th</sup> Conference on Uncertainty in Artificial Intelligence. [ <a href="#">ARXIV</a> ] [ <a href="#">SLIDES</a> ] [ <a href="#">POSTER</a> ]
	2023	<a href="#">CELL H&amp;M</a> <b>Maasch, J*</b> ; 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. [ <a href="#">CELL</a> ]
WORKSHOP PRESENTATIONS	2023	<a href="#">NEURIPS</a> <b>Maasch, J</b> ; et al. <i>Local Discovery by Partitioning: Polynomial-Time Causal Discovery Around Exposure-Outcome Pairs</i> . NeurIPS Causal Representation Learning Workshop. [ <a href="#">WORKSHOP</a> ] [ <a href="#">ARXIV</a> ]
	2023	<a href="#">ICML</a> <b>Maasch, J</b> ; et al. <i>Regularized Data Programming with Automated Bayesian Prior Selection</i> . ICML Workshop on Structured Probabilistic Inference & Generative Modeling. [ <a href="#">WORKSHOP</a> ] [ <a href="#">ARXIV</a> ]
IN PREPARATION & UNDER REVIEW	2024	Kuleshov, V; <b>Maasch, J</b> ; Ermon, S. <i>Probabilistic Graphical Models: A Concise Tutorial</i> . In preparation for <i>Foundations &amp; Trends in Machine Learning</i> .
	2024	<b>Maasch, J</b> ; Hüyük, A; Xu, X; Nori A; Gonzalez J. <i>Compositional Causal Reasoning Evaluation in Language Models</i> . Under review.
INVITED TALKS	10.24	INFORMS Annual Meeting   Seattle, WA [ <a href="#">SLIDES</a> ]
	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 [ <a href="#">SLIDES</a> ]
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	Interdisciplinary Innovation Fellow   UPenn
	2020	Grace Hopper Celebration Scholarship   UPenn
PROFESSIONAL ACTIVITIES	2024	Co-organizer, <a href="#">NYC Learning on Graphs Conference</a>
	2024	Student leader, Cornell CS PhD Visit Days; Reviewer, PhD Admissions
	2023	Co-developer, <a href="#">Cornell CS 6006: Succeeding in the Graduate Environment</a>
	2023	Founder / organizer, <a href="#">Cornell Causal Reading Group</a>
PEER REVIEW	AI	ICML; UAI; AISTATS; ACL ARR; ICML <a href="#">SPIGM</a> ; NeurIPS <a href="#">WiML</a> .
	Bio	Communications Biology (Nature Portfolio); Journal of Biomedical Informatics (Elsevier); Bioinformatics (Oxford Academic); ACS Infectious Diseases.
PENDING PATENTS	2024	Hüyük, A; Xu, X; <b>Maasch, J</b> ; Nori A; Gonzalez J. <i>Fine-tuning Language Models for Reasoning with Counterfactual Feedback</i> . App no: 63/699,777.
	2022	de la Fuente-Nunez C; Torres M; Melo M; <b>Maasch J</b> . <i>Identification of antimicrobial peptides</i> . App no: 63/383,761.