

JACQUELINE R. M. A. MAASCH

CONTACT	✉ MAASCH@CS.CORNELL.EDU in LINKEDIN G JMAASCH.GITHUB.IO G GOOGLE SCHOLAR		
FOCUS	Advancing machine intelligence for reasoning and decision-making.		
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 4.00 Areas: AI / ML, Scientific Computing, Applied Probability & Statistics NSF Graduate Research Fellow Presidential Life Science Fellow	
	05.2021	University of Pennsylvania Philadelphia, PA Master of Computer & Information Technology GPA 3.97 Interdisciplinary Innovation Fellow Reproducible Research Fellow	
	05.2016	Smith College Northampton, MA BA Anthropology (Biological, Medical), Environmental Science GPA 3.97 Summa Cum Laude Phi Beta Kappa Sigma Xi	
EXPERIENCE	05.2024 – 08.2024	Research Intern Microsoft Research (MSR) Machine Intelligence Core Cambridge, UK PI: Dr. Aditya Nori, Dr. Javier González. Methods for the evaluation and elicitation of causal and compositional reasoning in language models.	
	05.2022 – 08.2022	Clinical Data Science Intern Boehringer Ingelheim, Biostatistics & Data Sciences Ridgefield, CT PI: Dr. Yi Liu. Multimodal deep learning methods for survival analysis in pharmaceutical development.	
	08.2021 – Present	PhD Student Researcher Weill Cornell Medicine Institute of AI for Digital Health New York, NY PI: Dr. Fei Wang. AI for clinical risk modeling, causal inference, target trial emulation, and computational biomedicine. Cornell Tech Operations Research New York, NY PI: Dr. Kyra Gan. Robust and efficient statistical inference, scalable causal discovery, and causal fairness in healthcare. Cornell Tech Computer Science New York, NY PI: Dr. Volodymyr Kuleshov. Core problems in generative and probabilistic modeling with applications to genomics and biomedicine.	
	05.2020 – 07.2021	Master's Student Researcher University of Pennsylvania Bioengineering Philadelphia, PA PI: Dr. César de la Fuente. New paradigms for computational antibiotic discovery using discriminative and generative ML.	
SKILL AREAS	Probabilistic graphical models; AI reasoning; AI evaluation; causal discovery; causal inference; causal fairness; graph theory; applied probability; AI4Science; AI4Health.		
LANGUAGES	Proficient: Python; R; \LaTeX . Prior experience: Java; C; JavaScript; MATLAB.		
TOOLS	Constant use: numpy; sklearn; tidyverse; networkx; git; high-performance computing. Experience with: PyTorch; TensorFlow; Stan.		

SELECT PEER-REVIEWED PUBLICATIONS (GOOGLE SCHOLAR)	2025	ICLR - ORAL - TOP 1.8% Hüyük, A; Xu, X; Maasch, J ; et al. <i>Reasoning Elicitation in Language Models via Counterfactual Feedback</i> . 13 th International Conference on Learning Representations. [ARXIV]
	2025	AAAI Maasch, J ; et al. <i>Local Causal Discovery for Structural Evidence of Direct Discrimination</i> . 39 th Annual AAAI Conference on Artificial Intelligence. [ARXIV] [SLIDES] [POSTER]
	2024	NEURIPS Hiremath, S; Maasch, J ; et al. <i>Hybrid Top-Down Global Causal Discovery with Local Search for Linear and Nonlinear Additive Noise Models</i> . 38 th Annual Conference on Neural Information Processing Systems. [ARXIV]
	2024	UAI Maasch, J ; et al. <i>Local Discovery by Partitioning: Polynomial-Time Causal Discovery Around Exposure-Outcome Pairs</i> . 40 th Conference on Uncertainty in Artificial Intelligence. [ARXIV] [SLIDES] [POSTER]
	2023	CELL H&M 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]
WORKSHOP PRESENTATIONS	2023	NEURIPS 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	ICML Maasch, J ; et al. <i>Regularized Data Programming with Automated Bayesian Prior Selection</i> . ICML Workshop on Structured Probabilistic Inference & Generative Modeling. [WORKSHOP] [ARXIV]
IN PREPARATION & UNDER REVIEW	2025	Kuleshov, V; Maasch, J ; Ermon, S. <i>Probabilistic Graphical Models: A Concise Tutorial</i> . Preliminary acceptance, <i>Foundations & Trends in ML</i> .
	2025	Maasch, J ; Hüyük, A; Xu, X; Nori A; González J. <i>Compositional Causal Reasoning Evaluation in Language Models</i> . Under review. [ARXIV]
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]
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 Fellowship UPenn
	2020	Grace Hopper Celebration Scholarship UPenn
PROFESSIONAL ACTIVITIES	24-25	Co-organizer, NYC Learning on Graphs Workshop
	24-25	Reviewer, Cornell CS PhD Admissions
	23-25	Student leader, Cornell CS PhD Visit Days
	2023	Co-developer, Cornell CS 6006: Succeeding in the Graduate Environment
	2023	Founder / organizer, Cornell Causal Reading Group
PEER REVIEW	AI	ICML; UAI; AISTATS; ACL ARR; ICML SPIGM ; NeurIPS WiML .
	Bio	Communications Biology (Nature Portfolio); Journal of Biomedical Informatics (Elsevier); Bioinformatics (Oxford Academic); ACS Infectious Diseases.
PENDING PATENTS	2024	Hüyük, A; Xu, X; Maasch, J ; Nori A; González J. <i>Fine-tuning Language Models for Reasoning with Counterfactual Feedback</i> . App no: 63/699,777.
	2022	de la Fuente, C; Torres, M; Melo, M; Maasch, J . <i>Identification of antimicrobial peptides</i> . App no: 63/383,761.