JACQUELINE R. M. A. MAASCH

CONTACT	✉ MAASCH@CS.CORNELL.EDU | in LINKEDIN | ⌂ JMAASCH.GITHUB.IO | 𝕊 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
Frequently using: sklearn; numpy; tidyverse; 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. *Reasoning Elicitation in Language Models via Counterfactual Feedback.* 13th International Conference on Learning Representations. [ARXIV]
	2025	[AAAI] **Maasch, J**; et al. *Local Causal Discovery for Structural Evidence of Direct Discrimination.* 39th Annual AAAI Conference on Artificial Intelligence. [ARXIV] [SLIDES] [POSTER]
	2024	[NEURIPS] Hiremath, S; **Maasch, J**; et al. *Hybrid Top-Down Global Causal Discovery with Local Search for Linear and Nonlinear Additive Noise Models.* 38th Annual Conference on Neural Information Processing Systems. [ARXIV]
	2024	[UAI] **Maasch, J**; et al. *Local Discovery by Partitioning: Polynomial-Time Causal Discovery Around Exposure-Outcome Pairs.* 40th Conference on Uncertainty in Artificial Intelligence. [ARXIV] [SLIDES] [POSTER]
	2023	[CELL H&M] **Maasch, J***; Torres, M*; et al. *Molecular de-extinction of ancient antimicrobial peptides enabled by machine learning.* Cell Host & Microbe. 31. 8. 1260-1274. e6. 2023. **Equal contribution.* [CELL]
WORKSHOP PRESENTATIONS	*2023*	[NEURIPS] **Maasch, J**; et al. *Local Discovery by Partitioning: Polynomial-Time Causal Discovery Around Exposure-Outcome Pairs.* NeurIPS Causal Representation Learning Workshop. [WORKSHOP] [ARXIV]
	2023	[ICML] **Maasch, J**; et al. *Regularized Data Programming with Automated Bayesian Prior Selection.* ICML Workshop on Structured Probabilistic Inference & Generative Modeling. [WORKSHOP] [ARXIV]
IN PREPARATION & UNDER REVIEW	*2025*	Kuleshov, V; **Maasch, J**; Ermon, S. *Probabilistic Graphical Models: A Concise Tutorial.* Preliminary acceptance, *Foundations & Trends in ML.*
	2025	**Maasch, J**; Hüyük, A; Xu, X; Nori A; González J. *Compositional Causal Reasoning Evaluation in Language Models.* Under review.
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 Conference
	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. *Fine-tuning Language Models for Reasoning with Counterfactual Feeback.* App no: 63/699,777.
	2022	de la Fuente, C; Torres, M; Melo, M; **Maasch, J**. *Identification of antimicrobial peptides.* App no: 63/383,761.