JACQUELINE R. M. A. MAASCH

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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
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. Novel methods in AI reasoning.

05.2022 – 08.2022 — Clinical Data Science Intern
Boehringer Ingelheim Global 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. DOD-funded research on discriminative and generative ML for antibiotic discovery.

INTERESTS

Probabilistic graphical models; AI reasoning (compositional generalization, causal reasoning); causal discovery; causal inference; graph theory; applied probability.

LANGUAGES

Proficient: Python; R; LaTeX.
Prior experience: Java; C; JavaScript; MATLAB.

TOOLS

Frequently using: sklearn; numpy; tidyverse; git; high-performance computing.
Prior experience: 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. *Probabilistic Graphical Models: A Concise Tutorial.* In preparation for *Foundations & Trends in Machine Learning.*
	2024	**Maasch, J**; et al. *Compositional Causal Reasoning.* Under review.
	2024	**Maasch, J**; et al. *Local Causal Discovery for Structural Evidence of Direct Discrimination.* Under review. [ARXIV] [SLIDES]
	2024	Hüyük, A; Xu, X; **Maasch, J**; et al. *Reasoning Elicitation in Language Models via Counterfactual Feedback.* Under review. [ARXIV]

SELECT PEER-REVIEWED PUBLICATIONS (GOOGLE SCHOLAR)	*2024*	Hiremath, S; **Maasch, J**; et al. *Hybrid Top-Down Global Causal Discovery with Local Search for Linear and Nonlinear Additive Noise Models.* Proceedings of the Thirty-Eighth Annual Conference on Neural Information Processing Systems (NeurIPS 2024). [ARXIV]
	2024	**Maasch, J**; et al. *Local Discovery by Partitioning: Polynomial-Time Causal Discovery Around Exposure-Outcome Pairs.* Proceedings of the 40th Conference on Uncertainty in Artificial Intelligence. [ARXIV] [SLIDES] [POSTER]
	2024	Pan, W; Su, C; **Maasch, J**; et al. *Learning Phenotypic Associations for Parkinson's Disease with Longitudinal Clinical Records.* AMIA Summits on Translational Science Proc. American Medical Informatics Assoc. [NCBI]
	2023	**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]
	2022	Melo, M*; **Maasch, J***; et al. *Machine Learning for Drug Discovery.* 2022. American Chemical Society. **Equal contribution.* [GOOGLE BOOKS]

WORKSHOP PRESENTATIONS	*2023*	**Maasch, J**; et al. *Local Discovery by Partitioning: Polynomial-Time Causal Discovery Around Exposure-Outcome Pairs.* NeurIPS Causal Representation Learning Workshop. [WORKSHOP] [ARXIV]
	2023	**Maasch, J**; et al. *Regularized Data Programming with Automated Bayesian Prior Selection.* 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.