

JACQUELINE R. M. A. MAASCH

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| 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 Computer Science New York, NY PI: Dr. Volodymyr Kuleshov. Core problems in generative and probabilistic modeling with applications to genomics and 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. | |
| | 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. | | |

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| SELECT PEER-REVIEWED PUBLICATIONS (GOOGLE SCHOLAR) | 2025 | ICML Maasch, J ; Hüyük, A; Xu, X; Nori A; González J. <i>Compositional Causal Reasoning Evaluation in Language Models</i> . 42 nd International Conference on Machine Learning. [ARXIV] [SLIDES] |
| | 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] |
| INVITED TALKS | 04.25 | Flatiron Institute New York, NY [SLIDES] |
| | 03.25 | Cornell INFO 5375: Machine Learning for Health New York, NY [SLIDES] |
| | 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 | 2025 | Digital Life Initiative Doctoral Fellowship Cornell Tech |
| | 2023 | Outstanding Service and Community Award Cornell Tech |
| | 2021 | NSF Graduate Research Fellowship US National Science Foundation |
| | 2021 | Presidential Life Science Fellowship Cornell University |
| | 2021 | Reproducible Research Fellowship OKFN, Alfred P. Sloan Foundation |
| | 2020 | Interdisciplinary Innovation Fellowship University of Pennsylvania |
| 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. |