Ben Prystawski

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Education

Stanford University 2021–2026
Ph.D. and M.A. in Psychology, advisor: Noah Goodman

University of Toronto 2017–2021
B.Sc. in Computer Science and Cognitive Science

Research Positions

Princeton University September 2026–Present
Postdoctoral Research Fellow – Natural and Artificial Minds

Max Planck Institute for Intelligent Systems, Research Intern with Falk Lieder Summer 2020

University of Toronto, Research Intern with Yang Xu Summer 2019

Teaching Assistantships

Minds and Machines (SYMSYS 1), Prof. Jiajun Wu Winter 2025

Foundations of Cognition (PSYCH 205), Prof. Noah Goodman Spring 2024

Experimental Methods (PSYCH 251), Prof. Michael Frank Autumn 2023

Probabilistic Models of Cognition: Learning and Reasoning (PSYCH 220A/CS 428A), Prof. Noah Goodman Spring 2023

Experimental Methods (PSYCH 251), Prof. Michael Frank Autumn 2022

Preprints

Boyce, V., Marchman, V. A., Baumgartner, H. A., Bergey, C. A., Braginsky, M., Giovannetti, F., Kachergis, G., Mankewitz, J., Meylan, S., **Prystawski, B.**, Sparks, R. Z., Steffan, A., Tan, A. W. M., Frank, M. C., & Zettersten, M. (2026). Data-driven recommendations for increasing reliability and validity in measures of infant word recognition. *PsyArXiv preprint*.

Nasvytis, L., Han, S. J., **Prystawski, B.**, Grant, S., Goodman, N. D., & Fan, J. E. (2026). CORE: Contrastive reflection enables rapid improvements in reasoning. *arXiv preprint arXiv:2605.28742*.

Prystawski, B., Mukherjee, K., Wurgaft, D., Nasvytis, L., Li, M. Y., Goodman, N. D., & Frank, M. C. (2026). auto-psych: Automating the science of mind using agent-driven theory discovery and experimentation. *arXiv preprint arXiv:2606.26460*.

Prystawski, B., Arumugam, D., & Goodman, N. D. (2025). Lossy communication constrains iterated learning. *arXiv preprint arXiv:2511.18220*.

Publications

* denotes joint first authorship.

Colas, C., Mills, T., **Prystawski**, **B.**, Tessler, M. H., Goodman, N. D., Andreas, J., & Tenenbaum, J. B. (2026). Language and experience: A computational model of social learning in complex tasks. *International Conference on Learning Representations (ICLR)*.

Frank, M. C., Marchman, V. A., Bergey, C. A., Boyce, V., Braginsky, M., Kachergis, G., Mankewitz, J., Meylan, S. C., **Prystawski**, **B.**, Ram, N., Sparks, R. Z., Steffan, A., Tan, A. W. M., & Zettersten, M. (2026). Continuous developmental changes in word recognition and language learning across early childhood. *eLife*, *14*, RP109636.

Prystawski, **B.**, Frank, M. C., & Goodman, N. D. (2026). Discovering and transmitting abstract knowledge over generations. *Proceedings of the 48th Annual Conference of the Cognitive Science Society*.

Tan*, A. W. M., **Prystawski***, **B.**, & Boyce, V. (2026). Which one is banana man? Evaluating vision-language models in multi-turn pragmatic interpretation. *Proceedings of the 2026 Conference on Empirical Methods in Natural Language Processing (EMNLP)*.

Zhong, Z., **Prystawski**, **B.**, Wu, S. A., Fascendini, B., Saeedpour, S., & Austerweil, J. L. (2026). Interpretational alignment: How agents learn from physical guidance depends on how they interpret it. *Proceedings of the 48th Annual Conference of the Cognitive Science Society*.

Boyce, V., **Prystawski**, **B.**, Tan, A., & Frank, M. C. (2025). Idiosyncratic but not opaque: Linguistic conventions formed in reference games are interpretable by naïve humans and vision–language models. *Proceedings of the 47th Annual Conference of the Cognitive Science Society*.

Prystawski, **B.**, & Goodman, N. D. (2025). Thinking fast, slow, and everywhere in between in humans and language models. *Proceedings of the 47th Annual Conference of the Cognitive Science Society*.

Tan*, A. W. M., **Prystawski***, **B.**, Boyce, V., & Frank, M. C. (2025). Context informs pragmatic interpretation in vision-language models. *CogInterp Workshop at NeurIPS 2025*.

Vajipey*, V., Tadimeti*, A., Shen*, J., **Prystawski**, **B.**, Li, M. Y., & Goodman, N. D. (2025). Simple, scalable reasoning via iterated summarization. *Workshop on Long-Context Foundation Models at ICML 2025*.

Wurgaft*, D., **Prystawski***, **B.**, Gandhi, K., Zhang, C. E., Tenenbaum, J. B., & Goodman, N. D. (2025). Scaling up the think-aloud method. *Proceedings of the 47th Annual Conference of the Cognitive Science Society*.

Boyce, V., **Prystawski**, **B.**, Abutto, A. B., Chen, E. M., Chen, Z., Chiu, H., Ergin, I., Gupta, A., Hu, C., Kemmann, B., Klevak, N., Lua, V. Y. Q., Mazzaferro, M. M., Mon, K., Ogunbamowo, D., Pereira, A., Troutman, J., Tung, S., Uricher, R., & Frank, M. C. (2024). Estimating the replicability of psychology experiments after an initial failure to replicate. *Collabra: Psychology*, *10*(1).

Colas, C., Mills, T., **Prystawski**, **B.**, Tessler, M. H., Goodman, N. D., Andreas, J., & Tenenbaum, J. B. (2024). Naturalistic transmission of causal knowledge between machines and humans. *Proceedings of the 46th Annual Conference of the Cognitive Science Society*.

Prystawski, **B.**, Arumugam, D., & Goodman, N. D. (2023). Cultural reinforcement learning: A framework for modeling cumulative culture on a limited channel. *Proceedings of the 45th Annual Conference of the Cognitive Science Society*.

Prystawski, **B.**, Li, M. Y., & Goodman, N. D. (2023). Why think step by step? Reasoning emerges from the locality of experience. *Advances in Neural Information Processing Systems (Oral)*, *36*, 70926–70947.

Prystawski, **B.**, Thibodeau, P., Potts, C., & Goodman, N. D. (2023). Psychologically-informed chain-of-thought prompts for metaphor understanding in large language models. *Proceedings of the 45th Annual Conference of the Cognitive Science Society*.

Singhi, N., Mohnert, F., **Prystawski**, **B.**, & Lieder, F. (2023). Toward a normative theory of (self-) management by goal-setting. *Proceedings of the 45th Annual Conference of the Cognitive Science Society*.

Prystawski, **B.**, Grant, E., Nematzadeh, A., Lee, S. W. S., Stevenson, S., & Xu, Y. (2022). The emergence of gender associations in child language development. *Cognitive Science*, *46*(6), e13146.

Prystawski*, **B.**, Mohnert*, F., Tošić, M., & Lieder, F. (2022). Resource-rational models of human goal pursuit. *Topics in Cognitive Science*, *14*(3), 528–549.

Nogas, J., Li, T., Yanez, F. J., Modiri, A., Deliu, N., **Prystawski**, **B.**, Villar, S. S., Rafferty, A., & Williams, J. J. (2021). Algorithms for adaptive experiments that trade-off statistical analysis with reward: Combining uniform random assignment and reward maximization. *Causal Inference Challenges in Sequential Decision Making: Bridging Theory and Practice Workshop at NeurIPS 2021*.

Prystawski, **B.**, Gelpi, R., Lucas, C. G., & Buchsbaum, D. (2021). Modelling recognition in human puzzle solving. *Proceedings of the 43rd Annual Conference of the Cognitive Science Society*.

Gelpi, R., **Prystawski, B.**, Lucas, C. G., & Buchsbaum, D. (2020). Incremental hypothesis revision in causal reasoning across development. *Proceedings of the 42nd Annual Conference of the Cognitive Science Society*, 974–980.

Prystawski, B., Grant, E., Nematzadeh, A., Lee, S. W. S., Stevenson, S., & Xu, Y. (2020). Tracing the emergence of gendered language in childhood. *Proceedings of the 42nd Annual Conference of the Cognitive Science Society*.

Prystawski, B., Nogas, J., Petersen, A., & Williams, J. J. (2020). Improving short and long-term learning in an online homework system. *4th Educational Data Mining in Computer Science Education (CSEDM) Workshop at EDM 2020*.

Awards and Honors

Top Reviewer, NeurIPS 2026

Norman H. Anderson Research Award, Stanford University 2022, 2023
$2,000 award to support graduate student research

Undergraduate Student Research Award, Natural Sciences and Engineering Research Council 2019
$6,000 award to support undergraduate research over the summer

University of Toronto Scholar, University of Toronto 2017
$7,500 entrance scholarship

Mentoring

Princeton University, undergraduate students

- Shirley Yu 2026–Present

Stanford University, undergraduate students

- Naomi Solomon (honors thesis) 2024–2025
- Aditya Tadimeti 2024–2025
- Vivek Vajipey 2023–2025
- Justin Shen 2023–2025
- Emily Bunnapradist (summer intern) 2023

Service

Reviewing

- Journals: Cognition (2026), Cognitive Science (2026)
- Conferences: CogSci (2021–2026), NeurIPS (2026)
- Workshops: ICML (2024–2025), NeurIPS (2024–2026)

Department of Psychology, Stanford University

- Graduate program committee: 2022–2024
- Friday seminar organizing committee: 2023–2024