

# Elias Stengel-Eskin

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## EDUCATION

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### Johns Hopkins University

Ph.D. in Computer Science, Advisor: Benjamin Van Durme

– supported by NSF Graduate Research Fellowship

Baltimore, USA

2018–Current

### Johns Hopkins University

MSE in Computer Science, Advisor: Benjamin Van Durme

Baltimore, USA

2018–2021

### McGill University

Bachelor of Arts and Sciences in Cognitive Science

Montreal, Quebec

2014–2018

– Minor: Linguistics

– First Class Honours (GPA: 3.85/4.00)

– Honours thesis: “Variational Bayesian Inference for Unsupervised Lexicon Discovery”, Advisor: Timothy O’Donnell

## EXPERIENCE

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### Microsoft Research

PhD Research Intern – *Advisors: Marc-Alexandre Côté, Eric Yuan, Pierre-Yves Oudeyer*

Montreal

March 2022–March 2023

### Microsoft Research - Semantic Machines

PhD Research Intern – *Advisor: Yu Su*

Remote

Summer 2021

### Montreal Computational and Quantitative Linguistics Lab

Research Assistant – *Advisor: Morgan Sonderegger*

Montreal, Canada

2016–2018

## PUBLICATIONS (PEER-REVIEWED)

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- [1] **E. Stengel-Eskin** and B. Van Durme, “Calibrated Interpretation: Confidence Estimation in Semantic parsing”, *Transactions of the Association for Computational Linguistics*, 2023.
- [2] **E. Stengel-Eskin**, J. Guallar-Blasco, Y. Zhou, and B. Van Durme, “Why Did the Chicken Cross the Road? Rephrasing and Analyzing Ambiguous Questions in VQA”, *Proceedings of the 61st Annual Meeting of the Association for Computational Linguistics*, 2023.
- [3] Z. Li, X. Wang, **E. Stengel-Eskin**, A. Kortylewski, W. Ma, B. Van Durme, and A. Yuille, “Super-CLEVR: A Virtual Benchmark to Diagnose Domain Robustness in Visual Reasoning”, *Conference on Computer Vision and Pattern Recognition (CVPR)*, 2023.
- [4] **E. Stengel-Eskin** and B. Van Durme, “The Curious Case of Control”, *Proceedings of the 2022 Conference on Empirical Methods in Natural Language Processing*, 2022.
- [5] **E. Stengel-Eskin**, E. A. Platanios, A. Pauls, S. Thomson, H. Fang, B. Van Durme, J. Eisner, and Y. Su, “When More Data Hurts: A Troubling Quirk in Developing Broad-Coverage Natural Language Understanding Systems”, *Proceedings of the 2022 Conference on Empirical Methods in Natural Language Processing*, 2022.

- [6] C. Zhang, B. Van Durme, Z. Li, and **E. Stengel-Eskin**, “Visual Commonsense in Pretrained Unimodal and Multimodal Models”, in *Proceedings of the 2022 Conference of the North American Chapter of the Association for Computational Linguistics*, Seattle, Washington: Association for Computational Linguistics, 2022.
- [7] **E. Stengel-Eskin**, A. Hundt, Z. He, A. Murali, N. Gopalan, M. Gombolay, and G. D. Hager, “Guiding Multi-Step Rearrangement Tasks with Natural Language Instructions”, in *5th Annual Conference on Robot Learning*, 2021.
- [8] Z. Li, **E. Stengel-Eskin**, Y. Zhang, C. Xie, Q. Tran, B. Van Durme, and A. Yuille, “Calibrating Concepts and Operations: Towards Symbolic Reasoning on Real Images”, in *Proceedings of the IEEE/CVF International Conference on Computer Vision (ICCV)*, 2021.
- [9] **E. Stengel-Eskin**, J. Guallar-Blasco, and B. Van Durme, “Human-Model Divergence in the Handling of Vagueness”, in *Proceedings of the 1st Workshop on Understanding Implicit and Underspecified Language*, Online: Association for Computational Linguistics, 2021.
- [10] **E. Stengel-Eskin**, K. Murray, S. Zhang, A. S. White, and B. Van Durme, “Joint Universal Syntactic and Semantic Parsing”, *Transactions of the Association for Computational Linguistics*, 2021.
- [11] **E. Stengel-Eskin**, J. Guallar-Blasco, and B. Van Durme, “Exploring Human-Model Divergence Through Vagueness”, *Proceedings of the Society for Computation in Linguistics*, 2021, **\*Abstract**.
- [12] R. Culkin, J. E. Hu, **E. Stengel-Eskin**, G. Qin, and B. V. Durme, “Iterative Paraphrastic Augmentation with Discriminative Span Alignment”, *Transactions of the Association for Computational Linguistics*, vol. 9, 2021.
- [13] **E. Stengel-Eskin**, A. S. White, S. Zhang, and B. Van Durme, “Universal Decompositional Semantic Parsing”, in *Proceedings of the 58th Annual Meeting of the Association for Computational Linguistics*, 2020.
- [14] A. S. White, **E. Stengel-Eskin**, S. Vashishtha, V. S. Govindarajan, D. A. Reisinger, T. Vieira, K. Sakaguchi, S. Zhang, F. Ferraro, R. Rudinger, *et al.*, “The Universal Decompositional Semantics Dataset and Decomp Toolkit”, in *Proceedings of The 12th Language Resources and Evaluation Conference*, 2020.
- [15] **E. Stengel-Eskin**, T.-R. Su, M. Post, and B. Van Durme, “A Discriminative Neural Model for Cross-Lingual Word Alignment”, in *Proceedings of the 2019 Conference on Empirical Methods in Natural Language Processing and the 9th International Joint Conference on Natural Language Processing (EMNLP-IJCNLP)*, 2019.
- [16] M. McAuliffe, **E. Stengel-Eskin**, M. Socolof, and M. Sonderegger, “Polyglot and Speech Corpus Tools: A System for Representing, Integrating, and Querying Speech Corpora.” In *INTERSPEECH*, 2017.

## PUBLICATIONS (OTHER)

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1. **E. Stengel-Eskin**, K. Rawlins, and B. Van Durme, “Zero and Few-shot Semantic Parsing with Ambiguous Inputs” (2023), *Under Review*
2. **E. Stengel-Eskin** and B. Van Durme, “Did You Mean...? Confidence-based Trade-offs in Semantic Parsing” (2023), *Under Review*
3. J. Guallar-Blasco, **E. Stengel-Eskin**, B. Van Durme, “Analyzing Question Ambiguity in *Why*-Questions” (2023), *Mid-Atlantic Student Colloquium on Speech, Language and Learning (MASC-SLL 2023)* **\*Abstract**
4. S. Vaidya, **E. Stengel-Eskin**, J. Sedoc, “Automatic Evaluation of Chit-chat via Semantic Parsing” (2022), *Mid-Atlantic Student Colloquium on Speech, Language and Learning (MASC-SLL 2022)* **\*Abstract**

5. Y. Chen, S. Ebner, T. Chen, P. Xia, **E. Stengel-Eskin**, T. Su, J. E. Hu, N. Holzenberger, R. Culkin, C. Harman, M. Thomas, T. Lippincott, A. S. White, K. Rawlins, B. Van Durme, “NIST TAC SM-KBP 2019 System Description: JHU/UR Framework”, (2019)
6. **E. Stengel-Eskin**, “Variational Bayesian Inference for Unsupervised Lexicon Discovery” (2017), **Undergraduate Honours Thesis**

## INVITED TALKS

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- **Joint Universal Syntactic and Semantic Parsing** April 1st, 2022  
*Cornell University – Workshop on Meaning in Language*
- **Language, Structure, and Beyond** February 1st, 2023  
*Georgetown University – NERT Lab*
- **Language, Structure, and Beyond** February 17th, 2023  
*George Mason University – George Mason NLP Group*
- **Language, Structure, and Beyond** March 2nd, 2023  
*University of Cambridge – CS Department*
- **Language, Structure, and Beyond** March 13th, 2023  
*Brandeis University – CS Department*
- **Language, Structure, and Beyond** April 4th, 2023  
*Scaled Cognition*
- **Language, Structure, and Beyond** May 9th, 2023  
*UNC Chapel Hill – MURGe Group*

## SKILLS

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- **Programming (expert):** Python
- **Programming (proficient):** Bash, Java, Javascript, R
- **Libraries/Frameworks:** PyTorch, AllenNLP, Transformers, NLTK, numpy, MechanicalTurk, networkx, MXNet, React

## LANGUAGES

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- **Native:** English, German
- **Fluent:** French
- **Other:** Latin (reading/translation), Spanish (intermediate)

## TEACHING

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- **Teaching Assistant** at Johns Hopkins University Fall 2019  
*Artificial Intelligence (EN.601.464/664)*

## MENTORING

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- Jimena Guallar-Blasco Summer 2020-Present  
*BS expected 2024*
- Maryam Hashemzadeh Summer 2023  
*Research Assistant, MILA*
- Zhuohong (Zooey) He Winter 2021-Spring 2021  
*MSE, Spring 2021 (Current: Intuitive)*
- Chenyu (Heidi) Zhang Fall 2021-Fall 2022  
*BS 2022, (Current: MS at Stanford)*
- Shalaka Vaidya Fall 2022

<i>MS (NYU) 2023</i>	
• Yi Zhou	Winter 2022-Fall 2022
<i>MS 2022</i>	
• Vicky Zeng	Winter 2021-present
<i>PhD student</i>	

## FELLOWSHIPS AND AWARDS

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• NSF Graduate Research Fellowship	2018–Current
• First Class Honours in Cognitive Science	2018
• Dean’s Honor List (top 10% of faculty)	2014–2015, 2016–2018
• Arts Undergraduate Research Internship Award (\$4000)	2016

## GRADUATE COURSES

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Natural Language Processing, Neural Networks for NLP, Deep Learning, Applied Machine Learning, Computational Linguistics, Causal Inference, Vision as Bayesian Inference, Parallel Programming, Software Testing and Debugging, Deep Learning for Automated Discourse, Nonlinear Optimization, Human-Computer Interaction

## SERVICE

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### Reviewing

- **Primary Reviewer:** ACL (2021, 2022), NAACL 2022, EACL 2023, CoRL 2023
- **Secondary Reviewer:** NeurIPS 2020, ACL 2020, NAACL 2019, TACL
- **Program Committee:** UnImplicit 2022

### Committees

- **CLSP Visit Weekend Committee**, 2018-2022
- **CLSP Admissions Committee**, 2022-2023
- **Application Mentoring Group**, 2022-2023