

Daniel Hershcovich

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FOCUS AREAS Natural Language Processing: Machine Learning, Multilinguality, Semantics, Parsing, Argumentation, Sustainability.

EMPLOYMENT **Tenure-Track Assistant Professor**, University of Copenhagen. Since 1/3/2020.
Postdoctoral Researcher, University of Copenhagen. 1/3/2019–29/2/2020.
Teaching Assistant, Hebrew University of Jerusalem. 1/7/2015–31/8/2018.
Researcher and Software Engineer, IBM Research. 1/8/2008–31/1/2019.

EDUCATION **Ph.D., Computational Neuroscience**, Hebrew University of Jerusalem. 10/10/2019.
Dissertation: *Universal Semantic Parsing with Neural Networks*.
Advisors: Ari Rappoport and Omri Abend.
M.Sc., Computational Neuroscience, Hebrew University of Jerusalem. 22/07/2017.
B.Sc., Mathematics and Computer Science, Open University of Israel. 29/11/2010.

RESEARCH GRANTS *Haptic Captioning—Using Natural Language Models to Design Haptic Experiences*. Co-PI (with Hasti Seifi). Villum Experiment (17% acceptance). 2023–2025. 2,000,000 DKK.
Mining the Meaning: A semantic parsing approach to the study of literary change. Co-PI (with Jens Bjerring-Hansen). Data+, University of Copenhagen (31% acceptance). 2021–2023. Total 1,013,000 DKK.
Multilingual semantic parsing from grounding in Wikidata. Postdoctoral Excellence Fellowship, Israeli Council for Higher Education. 2019–2020. Total 100,000 USD.

HONORS AND AWARDS Outstanding Paper Award, ACL. 2017.
Shimon Peres Doctoral Fellowship. 2015.
Google Europe Scholarship for Students with Disabilities. 2015.

ACADEMIC ACTIVITIES **Organizer:**
EMNLP 2022 (workshop co-chair).
HPLT & NLPL Winter School 2023 (program co-chair).
Israel Seminar of Computational Linguistics. 2017.
CoNLL Shared Task on Meaning Representation Parsing. 2019–2020.
SemEval-2019 Task 1: Cross-lingual Semantic Parsing with UCCA. 2019.
Guest Editor:
Künstliche Intelligenz Special Issue: NLP and Semantics. 2021.
Area Chair:
NAACL-HLT 2021; ACL-IJCNLP 2021; *SEM 2021. ACL Rolling Review (since 10/2021).
Journal Reviewer:
Computational Linguistics; Computer Speech and Language; Language Resources and Evaluation.
Program Committee:
ACL 2015–2017, 2019–2020, 2022–2023; EMNLP 2017–2020; IJCNLP 2017; COLING

2018, 2020, 2022; NAACL-HLT 2019; *SEM 2019–2020; DMR 2019–2020, 2023; NoDaLiDa 2019, 2021, 2023; EurNLP 2019; AAAI 2020; IJCAI-PRICAI 2020; IWPT 2020, 2021; ACL-IJCNLP 2020; CoNLL 2020, 2022; TLT 2020; EACL 2021.

TEACHING

University of Copenhagen:

Lecturer, *Natural Language Processing*. 2019–2023.

Lecturer and **course organizer**, *Introduction to Data Science*. 2023.

Lecturer, *Introduction to Machine Learning*. 2020.

Hebrew University of Jerusalem:

Teaching assistant, *Human Language from a Computational Perspective*. 2014–2017.

SUPERVISION

University of Copenhagen:

Postdoc co-supervisor, Ali Al-Laith (2022–2025, with Jens Bjerring-Hansen).

PhD co-supervisor, Ruixiang Cui (2021–2024, with Anders Søgaard), Nina S. Schneidermann (2022–2024, with Bolette S. Pedersen), Alexander Conroy (2022–2024, with Jens Bjerring-Hansen).

MSc supervisor, Ruixiang Cui (2020), Wei Cheng (2021), Héctor R. Murrieta-Bello (2021), Martin M. M. Birkmand (2021), Xiaoyu Shi (2022), Nikolaus A. Schrack (2022), Marcus A. Hansen (2022), Lukas Mikelionis (2023), Oliver H. Breinholst (2023), Morten K. Thomsen (2023), Fengmao Wang (2023), Zi Wang (2023), Benjamin Paddags (2023).

BSc supervisor, Thor S. Larsen (2020), Mads F. Petersen (2020), Matilde B. Ritchie (2021), Jonathan S. Musso (2023), Axel Højmark (2023), Christian M. Jensen (2023).

COMMUNITY

IT Team Member, Københavns Fødevarefællesskab. Since 2020.

Web Development Project Leader, Public Knowledge Workshop, Israel. 2013–2019.

LEAVE

Parental leave, May 20–August 31, 2021.

PUBLICATIONS

44 publications (12 as first author). Citations: 1116. h-index: 15.

For a full list, see <https://scholar.google.com/citations?user=479qIucAAAAJ>.

Publications

44 publications (12 as first author). Citations: 1116. h-index: 15 based on Google Scholar: <https://scholar.google.com/citations?user=479qIucAAAAJ>.

PEER-REVIEWED JOURNALS AND CONFERENCES

1. Zi Wang and **Daniel Hershcovich**. “On Evaluating Multilingual Compositional Generalization with Translated Datasets”. In *Proceedings of the 61st Annual Meeting of the Association for Computational Linguistics*
2. Ruixiang Cui, Seolhwa Lee, **Daniel Hershcovich** and Anders Søgaard. “What does the Failure to Reason with “Respectively” in Zero/Few-Shot Settings Tell Us about Language Models?”. In *Proceedings of the 61st Annual Meeting of the Association for Computational Linguistics*
3. Simone Tedeschi, Johan Bos, Thierry Declercq, Jan Hajic, **Daniel Hershcovich**, Eduard H. Hovy, Alexander Koller, Simon Krek, Steven Schockaert, Rico Sennrich, Ekaterina Shutova and Roberto Navigli. “What’s the Meaning of Superhuman Performance in Today’s NLU?”. In *Proceedings of the 61st Annual Meeting of the Association for Computational Linguistics*
4. Yong Cao, Xianzhi Li, huiwen liu, Wen Dai, shuai chen, Bin Wang, Min Chen and **Daniel Hershcovich**. “Pay More Attention to Relation Exploration for Knowledge Base Question

Answering”. In *Findings of the 61st Annual Meeting of the Association for Computational Linguistics*

5. Li Zhou, Laura Cabello, Yong Cao and **Daniel Hershcovich**. “Cross-Cultural Transfer Learning for Chinese Offensive Language Detection”. In *Proceedings of the Workshop on Cross-Cultural Considerations in NLP, EACL 2023*
6. Yong Cao, Li Zhou, Seolhwa Lee, Laura Cabello, Min Chen and **Daniel Hershcovich**. “Assessing Cross-Cultural Alignment between ChatGPT and Human Societies: An Empirical Study”. In *Proceedings of the Workshop on Cross-Cultural Considerations in NLP, EACL 2023*
7. Ali Al-Laith and Kirstine Nielsen Degn and Alexander Conroy and Bolette S. Pedersen and Jens Bjerring-Hansen and **Daniel Hershcovich**. “Sentiment Classification of Historical Danish and Norwegian Literary Texts”. In *Proceedings of NoDaLiDa 2023*
8. Anders Sjøgaard, **Daniel Hershcovich** and Miryam de Lhoneux. “A Two-Sided Discussion of Preregistration of NLP Research”. In *Proceedings of EACL 2023*
9. Marcus Astrup Hansen and **Daniel Hershcovich**. “A Dataset of Sustainable Diet Arguments on Twitter”. In *Proceedings of the Workshop on NLP for Positive Impact 2022*
10. Nikolaus Schrack, Ruixiang Cui, Hugo A. López and **Daniel Hershcovich**. “Can AMR Assist Legal and Logical Reasoning?”. In *Findings of EMNLP 2022*
11. **Daniel Hershcovich**, Nicolas Webersinke, Mathias Kraus, Julia Anna Bingler and Markus Leippold. “Towards Climate Awareness in NLP Research”. In *Proceedings of EMNLP 2022*
12. Ruixiang Cui, Rahul Aralikkatte, Heather Lent and **Daniel Hershcovich**. “Compositional Generalization in Multilingual Semantic Parsing over Wikidata”. In *TACL, 2022*
13. Ruixiang Cui, **Daniel Hershcovich** and Anders Sjøgaard. “Generalized Quantifiers as a Source of Error in Multilingual NLU Benchmarks”. In *Proceedings of NAACL 2022*
14. Stephanie Brandl, **Daniel Hershcovich** and Anders Sjøgaard. “Evaluating Deep Taylor Decomposition for Reliability Assessment in the Wild”. In *Proceedings of ICWSM 2022*
15. **Daniel Hershcovich**, Stella Frank, Heather Lent, Miryam de Lhoneux, Mostafa Abdou, Stephanie Brandl, Emanuele Bugliarello, Laura Cabello Piqueras, Ilias Chalkidis, Ruixiang Cui, Constanza Fierro, Katerina Margatina, Phillip Rust and Anders Sjøgaard. “Challenges and Strategies in Cross-Cultural NLP”. In *Proceedings of ACL 2022*
16. Tom Hope, Ronen Tamari, Hyeonsu Kang, **Daniel Hershcovich**, Joel Chan, Aniket Kittur and Dafna Shahaf. “Scaling Creative Inspiration with Fine-Grained Functional Facets of Product Ideas”. In *Proceedings of CHI 2022*
17. Mareike Hartmann, Miryam de Lhoneux, **Daniel Hershcovich**, Yova Kementchedjheva, Lukas Nielsen, Chen Qiu and Anders Sjøgaard. “A Multilingual Benchmark for Probing Negation-Awareness with Minimal Pairs”. In *Proceedings of CoNLL 2021*
18. Mostafa Abdou, Artur Kulmizev, **Daniel Hershcovich**, Stella Frank, Ellie Pavlick and Anders Sjøgaard. “Can Language Models Encode Perceptual Structure Without Grounding? A Case Study in Color”. In *Proceedings of CoNLL 2021*
19. Ruixiang Cui and **Daniel Hershcovich**. “Great Service! Fine-grained Parsing of Implicit Arguments”. In *proceedings of IWPT 2021*
20. Nelson F. Liu, **Daniel Hershcovich**, Michael Kranzlein and Nathan Schneider. “Lexical Semantic Recognition”. In *proceedings of MWE 2021*
21. **Daniel Hershcovich** and Lucia Donatelli. “It’s the Meaning That Counts: The State of the Art in NLP and Semantics”. In *Künstliche Intelligenz, 2021*
22. Rahul Aralikkatte, Héctor Ricardo Murrieta Bello, **Daniel Hershcovich**, Marcel Bollmann, Anders Sjøgaard. “How far can we get with one GPU in 100 hours? CoAStAL at MultiIndicMT Shared Task”. *MultiIndicMT Shared Task 2021*

23. Marcel Bollmann, Rahul Aralikatte, Héctor Murrieta Bello, **Daniel Hershcovich**, Miryam de Lhoneux, Anders Søgaard. “Moses and the Character-Based Random Babbling Baseline: CoAStAL at AmericasNLP 2021 Shared Task”. *AmericasNLP Shared Task 2021*
24. Noam Slonim, Yonatan Bilu, Carlos Alzate, Roy Bar-Haim, Ben Bogin, Francesca Bonin, Leshem Choshen, Edo Cohen-Karlik, Lena Dankin, Lilach Edelstein, Liat Ein-Dor, Roni Friedman-Melamed, Assaf Gavron, Ariel Gera, Martin Gleize, Shai Gretz, Dan Gutfreund, Alon Halfon, **Daniel Hershcovich**, Ron Hoory, Yufang Hou, Shay Hummel, Michal Jacovi, Charles Jochim, Yoav Kantor, Yoav Katz, David Konopnicki, Zvi Kons, Lili Kotlerman, Dalia Krieger, Dan Lahav, Tamar Lavee, Ran Levy, Naftali Liberman, Yosi Mass, Amir Menczel, Shachar Mirkin, Guy Moshkowich, Shila Ofek-Koifman, Matan Orbach, Ella Rabinovich, Ruty Rinott, Slava Shechtman, Dafna Sheinwald, Eyal Shnarch, Ilya Shnayderman, Aya Soffer, Artem Spector, Benjamin Sznajder, Assaf Toledo, Orith Toledo-Ronen, Elad Venezian and Ranit Aharonov. “An autonomous debating system”. *In Nature, 2021*
25. Rahul Aralikatte, Mostafa Abdou, Heather Lent, **Daniel Hershcovich** and Anders Søgaard. “Joint Semantic Analysis with Document-Level Cross-Task Coherence Rewards”. *In proceedings of AAAI 2021*
26. Omri Abend, Dotan Dvir, **Daniel Hershcovich**, Jakob Prange and Nathan Schneider. “Cross-lingual Semantic Representation for NLP with UCCA”. *COLING 2020 tutorial*
27. Ruixiang Cui and **Daniel Hershcovich**. “Refining Implicit Argument Annotation For UCCA”. *In proceedings of DMR 2020*
28. **Daniel Hershcovich**, Nathan Schneider, Dotan Dvir, Jakob Prange, Miryam de Lhoneux and Omri Abend. “Comparison by Conversion: Reverse-Engineering UCCA from Syntax and Lexical Semantics”. *In proceedings of COLING 2020*
29. Stephan Oepen, Omri Abend, Lasha Abzianidze, Johan Bos, Jan Hajic, **Daniel Hershcovich**, Bin Li, Tim O’Gorman, Nianwen Xue and Daniel Zeman. “MRP 2020: The Second Shared Task on Cross-Framework and Cross-Lingual Meaning Representation Parsing.”. *In proceedings of CoNLL 2020 MRP Shared Task*
30. Ofir Arviv, Ruixiang Cui and **Daniel Hershcovich**. “HUJI-KU at MRP 2020: Two Transition-based Neural Parsers”. *In proceedings of CoNLL 2020 MRP Shared Task*
31. **Daniel Hershcovich**, Miryam de Lhoneux, Artur Kulmizev, Elham Pejhan and Joakim Nivre. “Køpsala: Transition-Based Graph Parsing via Efficient Training and Effective Encoding”. *In proceedings of IWPT 2020 Shared Task*
32. Omri Abend, Jan Hajič, **Daniel Hershcovich**, Marco Kuhlmann, Stephan Oepen, Tim O’Gorman and Nianwen Xue. “MRP 2019: Cross-Framework Meaning Representation Parsing”. *In proceedings of CoNLL 2019 MRP Shared Task*
33. **Daniel Hershcovich** and Ofir Arviv. “TUPA at MRP 2019: A Multi-Task Baseline System”. *In proceedings of CoNLL 2019 MRP Shared Task*
34. Rahul Aralikatte, Heather Lent, Ana Valeria Gonzalez, **Daniel Hershcovich**, Chen Qiu, Anders Sandholm, Michael Ringgaard and Anders Søgaard. “Rewarding Coreference Resolvers for Being Consistent with World Knowledge”. *In proceedings of EMNLP-IJCNLP 2019*
35. Leshem Choshen, Dan Eldad, **Daniel Hershcovich**, Elior Sulem and Omri Abend. “The Language of Legal and Illegal Activity on the Darknet”. *In proceedings of ACL 2019*
36. Yonatan Bilu, Ariel Gera, **Daniel Hershcovich**, Benjamin Sznajder, Dan Lahav, Guy Moshkowich, Anael Malet, Assaf Gavron and Noam Slonim. “Argument Invention from First Principles”. *In proceedings of ACL 2019*
37. **Daniel Hershcovich**, Zohar Aizenbud, Leshem Choshen, Elior Sulem, Ari Rappoport and Omri Abend. “SemEval 2019 Task 1: Cross-lingual Semantic Parsing with UCCA”. *In proceedings of SemEval 2019*

38. **Daniel Hershcovich**, Assaf Toledo, Alon Halfon and Noam Slonim. “Syntactic Interchangeability in Word Embedding Models”. *In proceedings of RepEval 2019*
39. **Daniel Hershcovich**, Omri Abend and Ari Rappoport. “Content Differences in Syntactic and Semantic Representations”. *In proceedings of NAACL-HLT 2019*
40. **Daniel Hershcovich**, Omri Abend and Ari Rappoport. “Universal Dependency Parsing with a General Transition-Based DAG Parser”. *In proceedings of CoNLL 2018 UD Shared Task*
41. **Daniel Hershcovich**, Omri Abend and Ari Rappoport. “Multitask Parsing Across Semantic Representations”. *In proceedings of ACL 2018*
42. **Daniel Hershcovich**, Omri Abend and Ari Rappoport. “A Transition-Based Directed Acyclic Graph Parser for UCCA”. *In proceedings of ACL 2017 (Outstanding Paper Award)*
43. Yonatan Bilu, **Daniel Hershcovich**, Noam Slonim. “Automatic Claim Negation: Why, How and When”. *In proceedings of NAACL-HLT 2015*
44. Noam Slonim, Ran Levy, Yonatan Bilu, **Daniel Hershcovich** and Ehud Aharoni. “Context Dependent Claim Detection”. *In proceedings of COLING 2014*
45. Ehud Aharoni, Carlos Alzate, Roy Bar-Haim, Yonatan Bilu, Lena Dankin, Iris Eiron, **Daniel Hershcovich**, Shay Hummel. “Claims on Demand—an Initial Demonstration of a System for Automatic Detection and Polarity Identification of Context Dependent Claims in Massive Corpora”. *In proceedings of COLING 2014*
46. Ehud Aharoni, Anatoly Polnarov, Tamar Lavee, **Daniel Hershcovich**, Ran Levy, Ruty Rinott, Dan Gutfreund, Noam Slonim. “A Benchmark Dataset for Automatic Detection of Claims and Evidence in the Context of Controversial Topics”. *In proceedings of ACL 2014*
47. Alon Adir, Dave Goodman, **Daniel Hershcovich**, Oz Herzhkovitz, Bryan Hickerson, Karen Holtz, Wisam Kadry, Anatoly Koyfman, John Ludden, Charles Meissner, Amir Nahir, Randall R Pratt, Mike Schiffli, Brett St Onge, Brian Thompto, Elena Tsanko, Avi Ziv. “Verification of Transactional Memory in POWER8”. *In proceedings of DAC 2014*

Patents

1. US Patent 10,013,470, “Automatic construction of arguments.” Granted. 8/2019.
2. US Patent 10,013,470, “Automatic detection of claims with respect to a topic.” Granted. 7/2018.
3. US Patent 9,753,916, “Automatic generation of a speech by processing raw claims to a set of arguments.” Granted. 9/2017.