

Elior Sulem

October 2023

Mail: eliorsu@bgu.ac.il

Personal Website: <https://www.eliorsulem.com>

Place and date of birth: Tel-Aviv, 1988

Academic Positions:

Lecturer. Ben-Gurion University of the Negev
Department of Software and Information Systems Engineering.
School of Brain Sciences and Cognition
October 2022 –

Postdoctoral Researcher. University of Pennsylvania.
Cognitive Computation Group,
Department of Computer and Information Science.
Advisor: Prof. Dan Roth
September 2019 – August 2022.

Education:

Ph.D.

The Hebrew University of Jerusalem (HUJI)
The Rachel and Selim Benin School of Computer Science and Engineering.
Advisor: Prof. Ari Rappoport.
Thesis title: A Semantic Structural Approach to Text Simplification
5/2014 – 7/2019
Member of the Language, Logic and Cognition Center (LLCC) program
for outstanding students: 2014 - 2016

M.A. in Cognitive Sciences magna cum laude.

The Hebrew University of Jerusalem (HUJI)
Advisor: Prof. Ari Rappoport.
Thesis title: Integration of a Cognitive Annotation into Machine Translation: Theoretical Foundations and Bilingual Corpus Analysis; Thesis grade: 96.
3/2010 – 1/2014
Member of the Language, Logic and Cognition Center (LLCC) graduate program
for outstanding students: 2012 – 2014
Courses in Machine Learning, Artificial Intelligence, Natural Language Processing, Linguistics, Logic

BSc. in Mathematics (extended program) and Cognitive Sciences.

The Hebrew University of Jerusalem (HUJI)
10/2006 – 10/2009

Research interests:

Computational linguistics, Natural Language Processing, Machine Learning, Deep Learning, Computational Semantics, Machine Translation, Text Simplification, Natural Language Understanding, Cognitive Science, Computational Modeling of Human Language Processing and Acquisition.

Grants, awards and fellowships:

BGU/Philadelphia Academic Bridge Travel Grant: 03/2023

Israel Ministry of Science Grant (MOST): 12/2022 – 12/2024

BGU Data Science Research Center Grant: 11/2022

CoNLL Best Paper Award runner up: 11/2021

Outstanding Reviewer for the EMNLP Conference: 11/2019

Travel grant from the HUJI Authority for Research Students: 07/2018

HUJI Limud Be Chevruta Fellowship for the organization of multi-disciplinary PhD student discussion groups.
Co-organization of the discussion group: An Interdisciplinary Approach to Language Processing and Acquisition
gathering together students in Computer Science, Psychology, Linguistics and Neuroscience: 2015-2017

Cognitive Sciences Department's prize to outstanding master thesis: 06/2014

The Language, Logic and Cognition Center (LLCC) fellowship: 10/2012 – 9/2016

Publications:

Yahan Yang, **Elior Sulem**, Insup Lee and Dan Roth.

Bootstrapping Small & High Performance Language Models with Unmasking-Removal Training Policy
Proc. of EMNLP 2023

Bonan Min*, Hayley Ross*, **Elior Sulem***, Amir Pouran Ben Veyesh*, Thien Huu Nguyen, Oscar Sainz, Eneko Agirre, Ilana Heintz and Dan Roth.

Recent Advances in Natural Language Processing via Large Pre-Trained Language Models: A Survey
ACM Computing Surveys, June 2023

*Equal Contribution

Zheng Qi, **Elior Sulem**, Haoyu Wang, Xiaodong Yu and Dan Roth

Capturing the Content of a Document through Complex Event Identification
Proc. of *SEM 2022

Elior Sulem, Jamaal Hay and Dan Roth

Yes, No or IDK: The Challenge of Unanswerable Yes/No Questions
Proc. of NAACL 2022

Philip Huebner, **Elior Sulem**, Cynthia Fisher and Dan Roth

Learning More Grammar With Small-Scale Child-Directed Language
Proc. of CoNLL 2021, pages 624-646

Best Paper Award runner up

Elior Sulem, Jamaal Hay and Dan Roth
Do We Know What We Don't Know? Studying Unanswerable Questions beyond SQuAD 2.0
Proc. of Findings of EMNLP 2021, pages 4543-4548

Qing Lyu, Hongming Zhang, **Elior Sulem** and Dan Roth
Zero-shot Event Extraction via Transfer Learning: Challenges and Insights
Proc. of ACL 2021, pages 322-332.

Elior Sulem, Omri Abend and Ari Rappoport
Semantic Structural Decomposition for Neural Machine Translation
Proc. of *SEM 2020, pages 50-57.

Leshem Choshen*, Dan Eldad*, Daniel Hershcovich*, **Elior Sulem*** and Omri Abend
The Language of Legal and Illegal Activity of the Darknet
Proc. of ACL 2019, pages 4271-4279
*Equal Contribution

Daniel Hershcovich, Zohar Aizenbud, Leshem Choshen, **Elior Sulem**, Ari Rappoport and Omri Abend.
SemEval 2019 Task 1: Cross-lingual Semantic Parsing with UCCA
Proc. of SemEval 2019, pages 1-10.

Elior Sulem, Omri Abend and Ari Rappoport.
BLEU is Not Suitable for the Evaluation of Text Simplification
Proc. of EMNLP 2018, pages 738-744.

Elior Sulem, Omri Abend and Ari Rappoport.
Simple and Effective Text Simplification Using Semantic and Neural Methods
Proc. of ACL 2018, pages 162-173.

Elior Sulem, Omri Abend and Ari Rappoport.
Semantic Structural Evaluation for Text Simplification
Proc. of NAACL HLT 2018, pages 685-696.

Elior Sulem, Omri Abend and Ari Rappoport.
Conceptual Annotations Preserve Structure Across Translations
Proc. of the ACL 2015 Workshop on Semantics-Driven Statistical Machine Translation (S2MT), pages 11-22

Theses:

Elior Sulem. *A Semantic Structural Approach to Text Simplification*
PhD Thesis. The Hebrew University of Jerusalem, July 2019.

Elior Sulem. *Integration of a Cognitive Annotation into Machine Translation: Theoretical Foundations and Bilingual Corpus Analysis*
Master Thesis, The Hebrew University of Jerusalem, 2014

Technical reports:

Yahan Yang, **Elior Sulem**, Insup Lee and Dan Roth.
Penn & BGU BabyBERTa+ for Strict-Small BabyLM Challenge

Communications at International Conferences with Proceedings:

Elior Sulem, Jamaal Hay and Dan Roth: Yes, No or IDK: The Challenge of Unanswerable Yes/No Questions –EMNLP 2022 - July 2022, Seattle (Poster presentation).

Elior Sulem, Jamaal Hay and Dan Roth: Do We Know What We Don't Know? Studying Unanswerable Questions beyond SQuAD 2.0 – Findings of EMNLP 2021 – Presentation at the 3rd Workshop for Machine Reading for Question Answering. November 2021, Online (Poster presentation).

Elior Sulem, Jamaal Hay and Dan Roth: Do We Know What We Don't Know? Studying Unanswerable Questions beyond SQuAD 2.0 – Findings of EMNLP 2021 – Presentation at the 2nd Workshop on Insights from Negative Results in NLP. November 2021, Online (Poster presentation).

Elior Sulem, Omri Abend and Ari. Rappoport: Semantic Structural Decomposition for Neural Machine Translation *SEM 2020 – December 2020, Online (Oral presentation).

Elior Sulem, Omri Abend and Ari Rappoport: BLEU is Not Suitable for the Evaluation of Text Simplification EMNLP 2018 - October 2018, Brussels (Poster).

Elior Sulem, Omri Abend and Ari Rappoport: Simple and Effective Text Simplification Using Semantic and Neural Methods
ACL 2018 - July 2018, Melbourne (Oral presentation).

Elior Sulem, Omri Abend and Ari Rappoport: Semantic Structural Evaluation for Text Simplification NAACL 2018 - June 2018, New Orleans (Oral presentation).

Elior Sulem, Omri Abend and Ari Rappoport: Conceptual Annotations Preserve Structure Across Translations: A French-English Case Study
ACL 2015 Workshop on Semantics-Driven Statistical Machine Translation (S2MT), July 2015, Beijing (Oral Presentation)

Communications at Conferences without Proceedings and Seminars:

Elior Sulem – What Can NLP Learn from Child Language Acquisition? (Invited talk)
August 2023, Software and Information Systems Engineering Honors Seminar, Ben-Gurion University of the Negev, Beer-Sheva.

Elior Sulem – A Question-Answering Approach to Cross-Lingual Summarization (Invited talk)
July 2023, BGU/Philadelphia Academic Bridge Talk, University of Pennsylvania, Philadelphia.

Elior Sulem – A Natural Language Understanding Approach to Event Extraction (Invited talk)
November 2022, Software and Information Systems Engineering Seminar, Ben-Gurion University of the Negev, Beer-Sheva.

Elior Sulem – Learning with Less Data and Labeling for Language Acquisition and Understanding (Invited talk)
January 2022, Software and Information Systems Engineering Seminar, Ben-Gurion University of the Negev, Beer-Sheva.

Elior Sulem – Learning with Less Data and Labeling for Language Acquisition and Understanding (Invited talk)
January 2022, Computer Science Seminar, The University of Haifa, online (Oral presentation).

Elior Sulem – Learning with Less Data and Labeling for Language Acquisition and Understanding (Invited talk)
January 2022, Computer Science Seminar, Ben-Gurion University of the Negev, Beer-Sheva.

Elior Sulem – Learning with Less Data and Labeling for Language Acquisition and Understanding (Invited talk)
December 2021, Computer Science Colloquium, Reichman University, Herzliya.

Elior Sulem - A Natural Language Understanding Approach to Event Extraction (Invited talk)
December 2021, Information Systems Colloquium, The University of Haifa, Haifa.

Elior Sulem - Natural Language Understanding and Generation Beyond Task-Specific Training (Invited talk)
August 2021, Computer Science Seminar, Ariel University, online.

Elior Sulem - Natural Language Understanding and Generation Beyond Task-Specific Training (Invited talk)
March 2021, Industrial Engineering and Management Seminar, Ben-Gurion University of the Negev, online

Elior Sulem - Natural Language Understanding and Generation Beyond Task-Specific Training (Invited talk)
March 2021, Computer Science Seminar, The Open University of Israel, online.

Elior Sulem - Natural Language Understanding and Generation Beyond Task-Specific Training (Invited talk)
December 2020, Computer Science Seminar, The University of Haifa, online.

Elior Sulem - A Natural Language Understanding Approach to Information Extraction (Invited Talk)
December 2020, Information Systems Colloquium, The University of Haifa, online.

Elior Sulem, Omri Abend and Ari Rappoport: BLEU is Not Suitable for the Evaluation of Text Simplification
Israeli Seminar on Computational Linguistics (ISCOL) - October 2018, IBM Research, Haifa (Poster).

Elior Sulem, Omri Abend and Ari Rappoport: Simple and Effective Text Simplification Using Semantic and Neural Methods
(Israeli Seminar on Computational Linguistics (ISCOL) - October 2018, IBM Research, Haifa (Oral Presentation).

Elior Sulem, Omri Abend and Ari Rappoport: Semantic Structural Evaluation for Text Simplification
4th International Usage-Based Linguistics Conference – July 2018, Tel-Aviv (Oral presentation).

Elior Sulem, Omri Abend and Ari Rappoport: Simple and Effective Text Simplification Using Semantic and Neural Methods
HUJI NLP Event - June 2018, Jerusalem (Oral presentation).

Elior Sulem, Omri Abend and Ari Rappoport: Semantic Structural Evaluation for Text Simplification
HUJI NLP Event - June 2018, Jerusalem (Oral presentation).

Daniel Hershcovich, Leshem Choshen, **Elior Sulem**, Zohar Aizenbud, Ari Rappoport and Omri Abend:
SemEval 2019 Task 1: Cross-lingual Semantic Parsing with UCCA – Teaser talk at SemEval 2018 -
June 2018, New Orleans (Oral presentation).

Elior Sulem, Omri Abend and Ari Rappoport: Semantic Structural Evaluation for Text Simplification
The IEEE Israel Conference of Students and Young Professionals (IEEE-SYP) - April 2018, Jerusalem (Poster).

Elior Sulem, Omri Abend and Ari Rappoport: Semantic Structural Evaluation for Text Simplification
HUJI Faculty Day (Faculteva 2018) - March 2018, Jerusalem (Poster).

Elior Sulem, Omri Abend and Ari Rappoport: Semantic Structure-Based Evaluation Metrics for Sentence Simplification
Israeli Seminar on Computational Linguistics (ISCOL) - September 2017, Jerusalem (Poster).

Elior Sulem, Omri Abend and Ari Rappoport: Semantic Structure-Based Evaluation Metrics for Sentence Simplification
ICRI-CI Israel Retreat, Intel - May 2017, Haifa (Poster).

Elior Sulem, Omri Abend and Ari Rappoport: Sentence Simplification Using Semantic Structures
LLCC Seminar, June 2016, Jerusalem (Oral Presentation).

Elior Sulem, Omri Abend and Ari Rappoport: Addressing Cross-linguistic Divergences for Machine Translation Using Cognitive Annotation
LLCC Student Seminar - March 2015, Jerusalem (Oral presentation).

Elior Sulem, Omri Abend and Ari Rappoport: Addressing Cross-linguistic Divergences for Machine Translation Using Cognitive Annotation: A French-English Case Study
Haifa 9th Machine Learning Seminar, IBM Research - November 2014, Haifa Poster).

Elior Sulem, Omri Abend and Ari Rappoport: Addressing Cross-linguistic Divergences for Machine Translation Using Cognitive Annotation: A French-English Case Study
Israeli Seminar on Computational Linguistics (ISCOL) - September 2014, Haifa (Oral presentation).

Elior Sulem, Omri Abend and Ari Rappoport: Addressing Cross-linguistic Divergences for Machine Translation Using Cognitive Annotation: A French-English Case Study
.LLCC Seminar, January 2014, Jerusalem (Oral Presentation)

Teaching:

Introduction to Information Systems and Computer Usage (372.1.1101), Ben-Gurion University of the Negev.
Lecturer: 2022-2023, 2023-2024

Data Science and Engineering Senior Project Seminar (382.1.4001 and 382.1.4002), Ben-Gurion University of the Negev.
Lecturer: 2022-2023, 2023-2024

Natural Language Understanding (372.2.5850), Ben-Gurion University of the Negev.
Lecturer: 2022-2023, 2023-2024

Human Language from a Computational Perspective (67127), The Hebrew University of Jerusalem.
Teaching Assistant: 2018-2019

Natural Language Processing (67658), The Hebrew University of Jerusalem.
Teaching Assistant: 2016-2017.

Computational models, Computability and Complexity (67521), The Hebrew University of Jerusalem.
Teaching Assistant: 2014-2015, 2015-2016.

Master Students Supervision:

Anita Narovlyansky – Ben-Gurion University of the Negev, 2022 – present
Liel Binyamin - Ben-Gurion University of the Negev, 2023 – present
Ido Dahan - Ben-Gurion University of the Negev, 2023 – present
Yuval Gurodiscky - Ben-Gurion University of the Negev, 2023 – present

Undergraduate Students Supervision:

Tal Ben Shimon – Ben-Gurion University of the Negev, 2023 – present (Senior Project; with Prof. Michael Elhadad and Dr. Yuval Pinter)
Itai Carmel – Ben-Gurion University of the Negev, 2023 – present (Senior Project; with Prof. Michael Elhadad and Dr. Yuval Pinter)
Ron Faygler – Ben-Gurion University of the Negev, 2023 – present (Senior Project; with Prof. Michael Elhadad and Dr.

Yuval Pinter)

Eitan Goldstin – Ben-Gurion University of the Negev, 2023 – present (Senior Project; with Dr. Or Duek)
Yael Kanevsky – Ben-Gurion University of the Negev, 2023 – present (Senior Project; with Dr. Or Duek)
Ofek Lutzky – Ben-Gurion University of the Negev, 2023 – present (Senior Project; with Dr. Or Duek)
Mark Tseytlin – Ben-Gurion University of the Negev, 2023 – present (Senior Project; with Dr. Or Duek)

Meital Glick - Ben-Gurion University of the Negev, Summer 2023 (Research assistant)

Saja Abu Krenat - Ben-Gurion University of the Negev, 2022-2023 (Senior Project; with Dr. Buzi Raviv and Artyom Pindyurin)

Ehsan Kitany - Ben-Gurion University of the Negev, 2022-2023 (Senior Project; with Dr. Buzi Raviv and Artyom Pindyurin)

Khalil Mhajne - Ben-Gurion University of the Negev, 2022-2023 (Senior Project; with Dr. Buzi Raviv and Artyom Pindyurin)

Orel Revach - Ben-Gurion University of the Negev, 2022-2023 (Senior Project; with Dr. Buzi Raviv and Artyom Pindyurin)

Student Mentoring:

Qing Lyu – PhD student, University of Pennsylvania, 2019 – 2021

Helen Jin – PhD student, University of Pennsylvania, 2020 – 2022

Yahan Yang – PhD student, University of Pennsylvania, 2022 – present

Tianyi Zhang – Master student, University of Pennsylvania, 2020 – 2022

Zheng Qi – Master Student, University of Pennsylvania, 2020 – 2022

Master Thesis Committees:

Nitzan Cohen – Ben-Gurion University of the Negev, 2023 (Advisor: Prof. Michael Elhadad)

Yoav Tulpan – Ben-Gurion University of the Negev, 2023 (Advisor: Dr. Oren Tsur), Chair

Moran Shay – Ben-Gurion University of the Negev, 2023 (Advisor: Dr. Nir Grinberg), Chair

Course Coordination:

Multidominance and movement in ellipsis (36861), The Hebrew University of Jerusalem,
Coordination of the course and the visit of Prof. Kyle Johnson (University of Massachusetts, Amherst) at the LLCC, 12/2014.

Modality and dynamics (36839), The Hebrew University of Jerusalem,
Coordination of the course and the visit of Prof. Seth Yalcin (Berkeley) at the LLCC, 5/2014.

Implicatures and Polarity (36855), The Hebrew University of Jerusalem,
Coordination of the course and the visit of Prof. Gennaro Chierchia (Harvard) at the LLCC, 1/2013.

Other Academic Activities:

Participation at the Brain Trust Breakout session on “Will computers learn to converse like humans?” led by Prof. Roi Reichart, Ateret Anaby-Tavor and Shila Ofek-Koifman at the Science, Tech & Sustainable Society IBM Summit: Tel-Aviv, September 2022

Participation in the “Penn Information Pollution” project for Covid 19, led by Prof. Dan Roth, Sihao Chen and Xander Uyttendaele at the University of Pennsylvania for the design of a [website](#) to help users find relevant and trustworthy information about the novel coronavirus.

Co-organizer of Task 1 in SemEval 2019 on Cross-lingual semantic parsing with UCCA

Co-organizer of ISCOL 2017 (The Annual Meeting of the Israeli Seminar on Computational Linguistics)

Co-organizer of a Ph.D. students discussion group in the HUJI Limud Be Chevruta Program:
An Interdisciplinary Approach to Language Processing and Acquisition: 2015-2017.

Area Chair for ACL-IJCNLP 2021 – Information Extraction Track

Area Chair for COLING-LREC 2024 – Information Extraction, Knowledge Extraction, and Text Mining Track

Area Chair for *SEM 2024 – Psycholinguistics Track

Oral Session Chair at ACL-IJCNLP 2021 – Semantics Track

Reviewer for ACM Computing Surveys (2020),

Reviewer for Frontiers in Artificial Intelligence (2023),

Reviewer for major NLP Conferences: EMNLP: 2018, 2019 (Outstanding Reviewer), 2020, 2021, 2022, 2023, ACL: 2020, 2023, COLING: 2020, EACL: 2021, *SEM: 2019, 2020, 2023, SemEval: 2019, ACL Rolling Reviews (2022).

Reviewer for Major AI Conferences: AAAI: 2020, 2022, IJCAI: 2020, 2021, 2022

Reviewer for NLPCC 2021.

Reviewer for Unimplicit: the 1st Workshop on Understanding Implicit and Underspecified Language: 2021.

Secondary Reviewer for EMNLP: 2017, ACL: 2014, 2015, NAACL: 2018, EACL: 2017

Participation at BGU Open Days towards Master Degree (March 2023, May 2023) and Bachelor Degree (May 2023).

Coordination with between the SISE Department and the BGU Library: August 2023 – present

Technical Skills:

Java, Python, Matlab, Pytorch, Tensorflow, Unix, Linux, Windows

Languages:

Hebrew (native), French (native level), English (high level), Spanish (high level), Arabic (good level) in reading and writing.