

ROYI RASSIN

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Second year PhD at BIU NLP lab, supervised by Prof. Yoav Goldberg. I'm broadly interested in exploring learnable representations in multi-modal setups, retrieval models, and pushing the limitations of language models.

EDUCATION

- Ph.D** in Natural Language Processing and Machine Learning 2022 – Present
Bar-Ilan University
Advisor: Prof. Yoav Goldberg
Research Topics: Underspecified Language; Abstractive Abilities of Learning Models; Interpretability; Representational Learning
- M.Sc** in Natural Language Processing and Machine Learning 2020 – 2022
Bar-Ilan University
Graduated with a final grade of 94 (Dean's List).
Advisor: Prof. Yoav Goldberg and Prof. Reut Tsarfaty
Research Topics: Modeling Implicit Language; Information Extraction; Interpretability; Language Understanding in Diffusion Models
- B.Sc** in Computer Science 2016 – 2019
College of Management
Graduated with a final grade of 94 (Dean's List).
Final Project: Machine Learning for Anomaly Detection in an imbalanced setting.

EXPERIENCE

- Applied Science Internship, Amazon** June 2023 - Nov
Working on a unique data resource for retrieval models which will be submitted to a top NLP venue.
- NLP Research & Development, Tymely** March 2023 - June 2023
- Developed and implemented an intent classification model for a large label space, improving accuracy by an order of magnitude compared to the existing model.
 - Ensured the model's efficiency in terms of time and cost, while maintaining high performance across various organizations with unique and shared intents.
 - Optimized model performance to meet real-time processing requirements, contributing to enhanced productivity and user experience.
 - Collaborated with cross-functional teams to integrate the new model into production, successfully enhancing the company's product offerings.
- Machine Learning Teaching Assistant** Oct 2019 - Present
TA in multiple graduate-level machine learning courses for computer science students.
- Research Engineer, Geva's Neuropsychology Lab** 2019 - 2020
Tested neuroscientists' hypotheses on a research project which focuses on predicting infants' likelihood of developing social impairments through eye-movement

Developed an internal research framework; optimized performance of neural models for a Chinese Word Segmentation task; Researched the feasibility of learning instant-messages behavior from an email dataset.

PUBLICATIONS

- Jiao Sun*, Deqing Fu*, Yushi Hu*, Su Wang, **Royi Rassin**, Da-Cheng Juan, Dana Alon, Charles Herrmann, Sjoerd van Steenkiste, Ranjay Krishna, Cyrus Rashtchian **DreamSync: Aligning Text-to-Image Generation with Image Understanding Feedback**. Under review.
- **Royi Rassin**, Eran Hirsch, Daniel Glickman, Shauli Ravfogel, Yoav Goldberg, Gal Chechik. **Linguistic Binding in Diffusion Models: Enhancing Attribute Correspondence through Attention Map Alignment**. NEURIPS 2023 (oral).
- **Royi Rassin**, Yoav Goldberg, Reut Tsarfaty. **Conjunct Resolution in the Face of Verbal Omissions**. ACL 2023.
- **Royi Rassin***, Shauli Ravfogel*, Yoav Goldberg. **DALLE-2 is Seeing Double: Flaws in Word-to-Concept Mapping in Text2Image Models**. BlackBoxNLP@EMNLP 2022.

ACADEMIC SERVICE

Reviewer: EMNLP 2022, EACL 2023

AWARDS

- 2023 - 2026: Israeli Council for Higher Education (Vatat) Fellowship for Outstanding PhD Students in Data Science
- 2022-2026: The Presidential Scholarship for Outstanding PhD Students
- 2020-2022: The Departmental Scholarship for Outstanding MSc Students
- 2019: Dean's List (BSc Computer Science)
- 2018: Perach Distinguished Mentor in CS

TECHNICAL STRENGTHS

NLP	HuggingFace, Transformers, MTurk, Rule-based NLP, spaCy, Dependency Graphs
ML Tools	PyTorch, Tensorflow, Scikit, Pandas, NumPy, Python
Languages	Python, Javascript and React

MISCELLANEOUS

- 2022: Attended LxMLS, a selective Machine Learning for NLP summer school
- 2019: Visiting student at Xihua University - took part in a student delegation in order to strengthen the relations between Computer Science students in China and Israel
- 2018: Perach - mentored fellow CS students with learning difficulties