

# ROYI RASSIN

rassinroyi@gmail.com

Second year PhD at BIU NLP lab, supervised by Prof. Yoav Goldberg. I'm broadly interested in pushing the limitations of generative multi-modal models and improving the alignment between modalities.

## EDUCATION

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**Ph.D** in Deep Learning 2022 – Present

Bar-Ilan University

Advisor: Prof. Yoav Goldberg

Research Topics: Image-text alignment and controlled generation.

**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.

**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

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**AI Research Intern, BRIA AI** Jan 2024 - April 2024 (expected)

Researching editing and robustness in text-to-image diffusion models.

**Applied Science Internship, Amazon** June 2023 - Dec 2023

Researched improved evaluation methodologies for text retrieval models, the work will be submitted to a top NLP venue.

**NLP Research & Development, Tymely** March 2023 - June 2023

I trained, evaluated, and helped integrate the first deep learning model to production.

**Machine Learning Teaching Assistant** Oct 2019 - Oct 2023

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

**Research Intern, Basis Technology** Jul - Oct 2019

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

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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 0.5% of papers).

**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

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Reviewer: EMNLP 2022, EACL 2023

## AWARDS

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- 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

## ACCEPTED TALKS

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**NeurIPS, Dec 2023:** Linguistic Binding in Diffusion Models: Enhancing Attribute Correspondence through Attention Map Alignment

## MISCELLANEOUS

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- 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