Morris Alper, M.Sc.

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Google Scholar GitHub LinkedIn

I am interested in multimodal learning, particularly using linguistic knowledge combined with vision and other structured modalities for complex tasks that require high-level semantic understanding.

Education

2023 – ongoing **Ph.D., Tel Aviv University** Electrical Engineering (Machine Learning)
Advisor: *Dr. Hadar Averbuch-Elor*

2019 – 2023 **M.Sc. (cum laude), Tel Aviv University** Computer Science
Advisor: *Dr. Hadar Averbuch-Elor*
Thesis: *Learning Human-Human Interactions in Images with Weak Textual Supervision*
GPA: 98 / 100

2012 – 2016 **B.Sc., Massachusetts Institute of Technology (MIT)** Linguistics and Mathematics (dual major).
GPA: 4.9 / 5

Employment History

2024 **Research Scientist Intern,** Meta.
Developing text-to-3D generative models.

2019 – 2023 **Data Science Lead and Lecturer,** Israel Tech Challenge.
Designed syllabus, wrote, and delivered lectures on data science to industry professionals.

2019 – 2021 **NLP Data Scientist,** Pipl, Inc.
Designed information extraction algorithms for unstructured textual web data.

2018 – 2019 **NLP Data Scientist,** Reverso-Softissimo.
Designed NLP algorithms to automatically correct and enrich linguistic data.

2017 – 2018 **Software Developer,** K Dictionaries.
Managed API for lexicographic data, and developed algorithms for data enrichment

2015 – 2016 **Software and Algorithm Developer,** Voiceitt.
Prototyped speech recognition algorithms and integrated them into the company's API.

2016 **Algorithm Development Intern,** SECOM.
Developed algorithms for improved facial recognition.

2012-2015 **Undergraduate Research in Cognitive Linguistics,** TedLab, MIT.
Analyzed psycholinguistic survey data to study cognition and language.

Research Publications

* indicates equal contribution.

Peer-Reviewed Conference Papers

1. **Morris Alper** and Hadar Averbuch-Elor. Emergent Visual-Semantic Hierarchies in Image-Text Representations. *Proceedings of the European Conference on Computer Vision (ECCV)*, 2024.

2. Moran Yanuka, **Morris Alper**, Hadar Averbuch-Elor, Raja Giryes. ICC : Quantifying Image Caption Concreteness for Multimodal Dataset Curation. *ACL (Findings)*, 2024.

3. Chen Dudai*, **Morris Alper***, Hana Bezalel, Rana Hanocka, Itai Lang, and Hadar Averbuch-Elor. HaLo-NeRF: Learning Geometry-Guided Semantics for Exploring Unconstrained Photo Collections. *Proceedings of the Eurographics Conference (EG)*, 2024.

4. **Morris Alper** and Hadar Averbuch-Elor. Kiki or Bouba? Sound Symbolism in Vision-and-Language Models. *Advances in Neural Information Processing Systems (NeurIPS)*, 2023. *(Spotlight)*

5. **Morris Alper** and Hadar Averbuch-Elor. Learning Human-Human Interactions in Images from Weak Textual Supervision. *Proceedings of the IEEE/CVF International Conference on Computer Vision (ICCV)*, 2023.

6. **Morris Alper***, Michael Fiman*, and Hadar Averbuch-Elor. Is BERT Blind? Exploring the Effect of Vision-and-Language Pretraining on Visual Language Understanding. *Proceedings of the IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR)*, 2023.

Miscellaneous Experience

Presentations and Interviews

2024 IMVC 2024 presentation on "Kiki or Bouba?" NeurIPS 2023 paper

Radio interview for Kan Tarbut program on VLM sound symbolism research (46:30-60:00, Hebrew language)

Awards and Achievements

2011 **International Linguistics Olympiad**, first place internationally (both individual and team rounds), best solution (problem 2), Zhurinsky Memorial Prize.

2009 **International Linguistics Olympiad**, honorable mention (individual round), first place in team round.

2008 **International Linguistics Olympiad**, tied for 6th place individual round (silver medal).

Academic Teaching Experience

Fall 2023 **Digital Signal Processing**, teaching assistant, Tel Aviv University.

Peer Review Service

2024 COLM, NeurIPS

Languages

English (native), **Hebrew** (professional), **French** (intermediate)

References

Available upon request