

Yonatan Bitton, Curriculum Vitae, April 2023

Contact Information

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Education

- PhD., Computer Science, The Hebrew University of Jerusalem** 2020–Present
Advisors: Prof. Gabriel Stanovsky and Prof. Roy Shwartz
Generalization of Vision and Language Models.
- MSc., magna cum laude, Computer Science, Ben Gurion University** 2019–2020
Advisors: Prof. Michael Elhadad and Prof. Eitan Bachmat
Cross-lingual entity linking and visual question answering. GPA 97
- BSc, Computer Science, Ben Gurion University, 2015-2019** 2015–2019

Work Experience[†]

- Researcher, Google Research** 2022–Present
- Consistency Team: focusing on vision-and-language, collaborated with top models (PaLI, Imagen, Parti), utilized synthetic data for image-text alignment, and designed automatic rewards for vision-and-language RLHF.
- Cerebra team: focusing on conversational AI, engaged with leading language models (LaMDA, PaLM, BARD); leveraged synthetic data for query generation, crafted personalized agents, and augmented LLM memory capabilities.
- Applied Scientist, Amazon Lab126** 2019–2022
Visual Fitness Halo Team - Developed a virtual fitness trainer, specializing in 2D/3D pose estimation, action recognition, error correction, on-device deployment and more.
- Researcher, IBM Research** 2017–2019
Developing machine-learning methods to detect frauds

Peer-Reviewed Publications

- [1] Awadalla. A, Gao. I, Gardner. J, Hessel. J, Hafany. Y, Zhu. W, Gedre. S, **Bitton. Y**, Kalyani. M, Kornblith. S, Koh. P, Ilharco. G, Wortsman. M, Schmidt. L
OpenFlamingo: An open-source framework for training vision-language models with in-context learning
Preprint <https://laion.ai/blog/open-flamingo/>
- [2] Yosef. R, **Bitton. Y**, Shahaf. D
IRFL: Image Recognition of Figurative Language
arXiv preprint <https://arxiv.org/abs/2303.15445>
- [3] Guetta. N*, **Bitton. Y***, Hessel. J, Schmidt. L, Elovici. Y, Stanovsky. G, Shwartz. R,
WHOOOPS! A Vision-and-Language Commonsense Benchmark of Heterogeneous Objects and Situations
Under Review
- [4] Yitzhak. S, Ilharco. G, Fang. A, Hayase. J, Smyrnis. G, Nguyen. T, Marten. R, Wortsman. M, Ghosh. D, Zhang. J, Orgad. E, Entezari. R, Daras. G, Pratt. S, Ramanujan. V, **Bitton. Y**, Mussmann. S, Vencu. R, Cherti. M, Krishna. R, Wei. P, Saukh. O, Ratner. A, Song. S, Hajishirzi. H, Farhadi. A, Beaumont. R, Oh. S, Dimakis. A, Jitsev. J, Carmon. Y, Shankar. V, Schmidt. L
DataComp: In search of the next generation of multimodal datasets via data scaling
Under Review

[†] Parallel to studies. * indicates equal contribution.

- [5] **Bitton. Y**, Cohen. S, Hakimi. I, Lewenberg. Y, Aharoni. R, Weinreb. E, q2d: Turning Question into Dialogs to Teach Models How to Search Under Review
- [6] **Bitton. Y**, Yosef. R, Strugo. E, Shahaf D, Shwartz. R, Stanovsky. G, VASR: Visual Analogies of Situation Recognition Association for the Advancement of Artificial Intelligence (**AAAI 2023**) Selected as an **Oral Presentation**
- [7] **Bitton. Y***, Guetta. N*, Yosef. R, Bansal. M, Stanovsky. G, Shwartz. R, WinoGAViL: Gamified Association Benchmark to Challenge Vision-and-Language Models Neural Information Processing Systems Datasets and Benchmarks Track (**NeurIPS 2022**) Selected as a **Featured Presentation** (Updated version of “Oral Presentation”)
- [8] **Bitton. Y**, Stanovsky. G, Elhadad. M, Shwartz. R, Data Efficient Masked Language Modeling For Vision and Language Findings of the Association for Computational Linguistics: **EMNLP 2021**
- [9] **Bitton. Y**, Stanovsky. G, Shwartz. R, Elhadad. M, Automatic Generation of Contrast Sets from Scene Graphs: Probing the Compositional Consistency of GQA North American Chapter of the Association of Computational Linguistics (**NAACL 2021**)
- [10] **Bitton. Y**, Cohen. R, Schifter. T, Bachmat. E, Elhadad. M, Elhadad. N Cross-lingual Unified Medical Language System entity linking in online health communities Journal of the American Medical Informatics Association (**JAMIA 2020**)

Selected Awards and Scholarships

PhD Awards

KLA Scholarship for Outstanding Graduate Students	2022
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MSc Awards

Dean’s Award for Excellence	2020
Graduated with honors (<i>magna cum laude</i>)	2020
Computer Science Department Research Excellence Award for journal publication	2020

Professional Activities

Conference Reviewer

Annual Meeting of the Association of Computational Linguistics (ACL)	2023
NeurIPS Datasets and Benchmarks	2022
Annual Meeting of the Association of Computational Linguistics (ACL)	2021
Conference on Empirical Methods in Natural Language Processing (EMNLP)	2021

Open Source

Breaking Common Sense: WHOOPS! A Vision-and-Language Benchmark of Synthetic and Compositional Images

Project website: <https://whoops-benchmark.github.io/>

Huggingface dataset: <https://huggingface.co/datasets/nlphuji/whoops>

WinoGAViL: Gamified Association Benchmark To Challenge Vision-And-Language Models

Project website: <https://winogavil.github.io/>

Software: <https://github.com/WinoGAViL/WinoGAViL-experiments>

VASR: Visual Analogies of Situation Recognition

Project website: <https://vasr-dataset.github.io/>

Software: <https://github.com/vasr-dataset/vasr>

Data Efficient Masked Language Modeling for Vision and Language

Software: https://github.com/yonatanbitton/data_efficient_masked_language_modeling_for_

vision_and_language

Automatic Generation of Contrast Sets from Scene Graphs

Software: https://github.com/yonatanbitton/automatic_generation_of_contrast_sets_from_scene_graphs

Cross-lingual unified medical language system entity linking in online health communities

Software: <https://github.com/yonatanbitton/mdtel>