Samuel Joseph Amouyal

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Computer Science PhD candidate (2nd year) at Tel-Aviv University co-advised by Prof. Jonathan Berant and Prof. Aya Meltzer-Asscher. My main area of research is Natural Language Processing. I am interested in comparing humans and Large Language Models (LLMs), specifically their error patterns to try to learn information on one of them using the other.

Education

PhD Candidate in Computer Science, Tel-Aviv University   2022 - Now
- NLP research focused on verifying the error patterns of LLMs on specific linguistic structures and their similarity to humans.
- Our work on using LLMs instead of humans as part of the pretesting process has been accepted in Findings of EACL 2024 [1].
- Additional research projects include: building a benchmark to test economic rationality (under review at ICML [2]), improving creativity in AI (ongoing, with the participation of the Israeli author Etgar Keret).

MSc in Computer Science, Tel-Aviv University   2020 - 2022
- My thesis work, advised by Prof. Jonathan Berant, focused on generating questions with many answers (at least 5), presented at an EMNLP workshop [3].
- Final grade: 95/100, Thesis grade: 97/100

Adi Lautman Interdisciplinary Program for Outstanding Students, Tel-Aviv University   2018 - 2022
- The program allows taking as many courses as desired, leading directly to an MS.c without a bachelor.
- Took many courses in Psychology, Neuro Science, Biology, Philosophy and others…

Experience

NLP Research Lead, BlinqIO   2023 - Now
- NLP Research lead at BlinqIO, a pre-seed startup developing a generative AI agent that replaces human testers.
- Responsible for leading the company's NLP research on training models to accomplish this task.

Teaching assistant, Computational models   2022 - Now
- Teach tutorials to classes of 50-60 students

Research Scientist, Mobileye   2022 - 2023
- Research scientist in the GT2D R&D team. Leading research on multi-modal models to reason over images.
- Built the deep learning training library currently used by the GT team (200 people).

Algorithm Engineer, Mobileye   2020 - 2022

- Part of a team (GT2D) responsible for creating algorithms (models + post-processing) to extract ground truth used by whole Mobileye from 2D images.

Awards and Honors

- TAD grant recipient
- Adi Lautman's Excellence scholarship recipient

Conferences and Poster Presentations

- Presented my MSc thesis work [3] as a virtual poster at *Generation, Evaluation & Metrics Workshop@EMNLP, 2023*
- Presented the first work of my PhD [1] as a poster at Finding of EACL (March 2024).
- The second work of my PhD [2] accepted as a poster at ICML 2024.

Volunteering

Technological help, One heart (Lev Ehad)   2023

- Before returning to the reserve as a fighter, I volunteered for one month at the beginning of the Swords of Iron war in a technological team in the One Heart organization.

Let's talk democracy   2023

- Let's talk democracy is an organization promoting healthy dialogue about democracy and liberalism in Israeli society (amid the recent social unrest). Member of the Modi'in stand.

Magshimim mentor   2021 - 2023

- Mentored teenagers from the periphery on technological projects (a chatbot and traffic sign detection_

Publications

Conference Papers

[1] Large Language Models for Psycholinguistic Plausibility Pretesting. **Samuel Joseph Amouyal**, Aya Meltzer-Asscher, Jonathan Berant. *Findings of EACL 2024.* [paper]

[2] Rationality Report Cards: Assessing the Economic Rationality of Large Language Models. Narun Raman, Taylor Lundy, **Samuel Joseph Amouyal**, Yoav Levine, Kevin Leyton-Brown, Moshe Tennenholtz. Under review at ICML 2024

[3] QAMPARI: an Open-Domain Question Answering Benchmark for Questions with Many Answers from Multiple Paragraphs. **Samuel Joseph Amouyal**, Ohad Rubin, Ori Yoran, Tomer Wolfson, Jonathan Herzig, Jonathan Berant. *Generation, Evaluation & Metrics Workshop@EMNLP,* 2023 [paper] [project]