

Idan Arbiv

Algorithm Engineer with interests in Generative AI, NLP, and Deep Learning.

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Education

M.Sc. Computer Science/ Ben Gurion University/ GPA – 96 (Dean's List)

Deep Learning Researcher under the guidance of Dr. [Omri Azencot](#), I focus on **Deep Learning** in the areas of **Sequential Modeling**, **Generative Modeling**, and **Representation Learning** utilizing technologies such as **PyTorch**, **Keras**, **Scikit-learn**, **Hugging Face**, **Optuna**, **Pandas**, **spaCy**, **OpenCV**, **FastAI** and **Neptune**.

Publications

- N. Berman*, I. Naiman*, **I. Arbiv***, G. Fadlon *, and O. Azencot. *Sequential Disentanglement by Extracting Static Information From A Single Sequence Element*. *International Conference on Machine Learning (ICML)*, 2024
- N. Berman*, I. Naiman*, **I. Arbiv**, G. Fadlon, Itai Pemper, and O. Azencot. *Utilizing Image Transforms and Diffusion Models for Generative Modeling of Short and Long Time Series*. *Neural Information Processing Systems (NeurIPS)*, 2024

Teaching Assistant

- CS 202.1.2051 - Principles Of Programming Languages (Spring 2023, 2024)
- CS 202.1.5391 - Distributed Systems Programming (Winter 2023, 2024)

B.Sc. Computer Science/ Ben Gurion University /GPA – 93 (Summa Cum Laude, Dean's List)

Experience

APR 25 – PRESENT

GenAI & NLP Algorithm Engineer / WSC Sports

- Develop and research production-grade services using NLP and GenAI Algorithms.

AUG 23 – APR 25

GenAI & ML Algorithm Engineer/ SONY Semiconductor

- Designed and developed a cutting-edge **LLM-based** web app using **advanced RAG** techniques to address the challenges of searching and extracting **3GPP technical documents**, providing a scalable solution for over **100 engineers**.
- Implemented **fusion-based indexing** using **BM25** and **FAISS** vector stores for efficient and accurate document retrieval, integrating **deep learning encoders** and **Cohere reranker** for enhanced accuracy.
- Leveraged **LangChain** and **Graph RAG** with a knowledge graph to connect and contextualize different document chunks.
- Utilized the **ELK stack** to manage and monitor document indexing, search performance, and overall system health.
- Integrated **RAGAS** for evaluation pipelines, deployed with **Streamlit**, and automated **CI/CD** processes using **TeamCity**.
- Enhanced system functionality with **GenAI agents**, adding **conversational memory**, multi-question **routing** with LLMs.
- Created a Python package for **interactive plot visualization**, leveraging **Matplotlib** to streamline data analysis and exploration.

MAY 22 – AUG 23

Software Engineer (Student)/ SONY Semiconductor

- Developed scalable, testable, and maintainable code for **cellular IoT desktop applications** using **OOP**, **SOLID principles**, and **design patterns** in **Java**, managing all stages from design to production with **Jira**, **Git**, and **Bitbucket**.
- Developed new software functionalities using **Java** and **Spring Boot** framework on the server side, as well as **databases management**, leveraging my understanding of various algorithms.
- Built dynamic UIs with **React** and **Redux**, integrating **RESTful APIs** and optimizing UX with analytics.

NOV 15 – AUG 20

Communications (C4I) Officer - Captain / IDF

- Led **communication** and technology systems for combat and special units, **commanding 40+ soldiers**, **15 officers**, and **5 noncommissioned officers**. Demonstrated strong leadership in diverse operational missions, including special assignments abroad, earning an **excellence certificate** for exceptional performance.