DANIEL MENDELEVITCH

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EDUCATION

University of California, Los Angeles (UCLA), Los Angeles, CA Expected June 2025, *Data Theory*

- GPA: 4.0

WORK EXPERIENCE

Deep Learning Researcher Oct 2022 - Present | LAION AI

- Core contributor of LAION's video-clip research project, applying Transformers and developing novel architectures for temporal CLIP embedding aggregation at scale for joint text-video understanding.
- Actively helping develop two open source research tools: video2numpy and clip-video-encode, which allow for efficient reading and CLIP-encoding of large-scale text-video datasets with millions of samples, like WebVid-10M.
- Assisting in the creation of a large-scale open-source text-video dataset for video pretraining.

ML Engineer Feb 2022 - Sep 2022 | Series B Healthcare Startup

- Developed a Transformer in PyTorch to associate EHR form input fields with text labels, achieving 97% accuracy. This model supports a large-scale initiative which has helped hundreds of healthcare providers spend ~50% less time on Epic and other EHR software by automating the digitization of healthcare records.
- Built pipelines with Kubeflow to help automate model training and data downloading jobs in the cloud.

Data Engineer April 2021 - Nov 2022 | AI Camp

- Led a team of interns to create a CLIP-based product to segment short videos based on natural language queries
- Developed data pipelines and ETLs using Airflow and the Django ORM which transferred millions of rows of data into a central database
- Contributed to AI Camp's curriculum has introduced thousands of high schoolers to various concepts in NLP and CV.

PROJECTS

Multimodal Latent Space Stitching | November 2022 - November 2022

- Leveraged two pre-trained multimodal encoders (CLIP and CLAP) to create a "unified" latent representation space for text, audio, and images simultaneously. This allows for zero-shot image-to-audio retrieval without any training, and you can try it out here.

Neural Video Search using CLIP Embeddings | August 2022 - September 2022

- Created and trained a custom text-to-video retrieval architecture which uses a Transformer to aggregate CLIP image embeddings from video frames to learn representations of videos in a pre-trained CLIP latent space. The model achieves 45% recall@5 on MSR-VTT, a ~5% improvement over mean aggregation. A demo is available here.

LEADERSHIP AND ACTIVITIES

DSU Director of Curriculum Mar 2022 - Present | UCLA Data Science Union

- Designed and taught a 10-week machine learning course for incoming club members, covering python fundamentals, exploratory data analysis, classical ML, and select deep learning topics.
- Developed a lesson on the Transformer architecture which covers tokenization, positional encodings, the attention mechanism, and encoder/decoder structure.

SKILLS

- Programming languages: Python, R, Java, C++, PostgreSQL.
- Libraries: PyTorch, NumPy, Pandas, Scikit-Learn, Keras, Matplotlib, Seaborn, Django.
- Classical machine learning: Classification, regression, clustering, recommendation systems.
- Deep learning: Transformers, CNNs, Autoencoders, NLP, CV, contrastive learning, representation learning.
- Languages: English (fluent), Hebrew (fluent), Spanish (conversational).