



Deep Learning Theory Retreat

Program

Day 1 - October 19, 2025

08.30 - 10.00 - Bus to Tel Dor National Park
10.00 - 12.15 - Guided Walk - Tel Dor
12.15 - 12.45 - Bus to Elma Hotel
12.45 - 13.50 - *Lunch*

13.50 - 14.00 - Opening Remarks: **Nadav Cohen** and **Shiri Stempler**

14.00 - 14.40 - Keynote Lecture:
Amir Globerson (Google Research & Computer Science, TAU)
"Accelerating and Evaluating Language Models"

14.40 - 15.10 - Session 1 (Moderator: Meir Feder)
Adi Haviv (Roi Livni) "Not Every Image is Worth a Thousand Words: Quantifying Originality in Text-to-Image Models"
Orin Levy (Yishay Mansour)
"Optimal Regret Bounds for Policy Optimization in Contextual Bandits"

15.10 - 16.15 - *Coffee Break + Room Check-in*

16.15 - 17.00 - Session 2 (Moderator: Saharon Rosset)
Yotam Alexander (Nadav Cohen)
"Do Neural Networks Need Gradient Descent to Generalize? A Theoretical Study"
Amit Attia (Tomer Koren)
"Benefits of Learning Rate Annealing for Tuning-Robustness in Stochastic Optimization"
Ido Atlas (Meir Feder)
"Fisher Information and Model Simplicity: An Information-Theoretic View of Generalization"

17.00 - 17.15 - *Coffee Break*
17.15 - 18.00 - Session 3 (Moderator: Tomer Koren)

Itamar Zimerman (Lior Wolf) "TensorLens: End-to-End Transformer Analysis via High-Order Attention Tensors "
Yuval Milo (Nadav Cohen) "Transformers Can Provably Learn Topological Sorting"
Daniel Ezer (Yishay Mansour & Alon Peled Cohen)
"Stochastic Linear Bandits with Parameter Noise"

18.00 - 18.45 - *Free Time*
18.45 - 20.00 - *Dinner*
20.00 - 21.00 - Posters & Cocktails
21.00 - 22.00 - Cocktail Making Workshop

Day 2 - October 20, 2025

07.30 - 09.30 - *Breakfast + Room Checkout*
09.30 - 10.15 - Session 4 (Moderator: Yishay Mansour)

Ofir Schlisselberg (Yishay Mansour)
"Improved Best-of-both-Worlds Regret for Bandits with Delayed Feedback"
Yonatan Slutzky (Nadav Cohen)
"The implicit Bias of Structured State Space Models Can be Poisoned with Clean Labels"
Shira Vansover-Hager (Tomer Koren)
"Rapid Overfitting of Multi-Pass SGD in Stochastic Convex Optimization"

10.15 - 10.30 - *Coffee Break*
10.30 - 11.15 - Session 5 (Moderator: Ran Gilead Bachrach)
Shlomi Vitori (Meir Feder) "Constrained Misspecified Universal Learning"
Amnon Levi (Yuval Dagan) "Reconstruction Attack on Theoretical Learners"
Idan Barnea (Yishay Mansour) "Cooperative Bandits on Graphs"

11.15 - 11.35 - *Coffee Break*
11.35 - 12.25 - Session 6 (Moderator: Roi Livni)

Daniel Ablin (Alon Peled Cohen) "Playing Markov Games Without Observing Payoffs"
Liad Erez (Tomer Koren) "Fast Rates in Bandit Multiclass Classification"
Matan Schliserman (Tomer Koren) "Multiclass Loss Geometry Matters for Generalization of Gradient Descent in Separable Classification"

12.25 - 12.30 - Closing Remarks
12.30 - 12.50 - *Coffee Break*
12.50 - 13.15 - *Bus to Amphora Winery*
13.15 - 14.50 - *Amphora Winery - Tour, Wine Tastings & Lunch*
14.50 - *Bus to Tel Aviv*





TAD
The Center for AI & Data Science
Tel Aviv University

Deep Learning Theory Retreat

Posters

1. Yotam Alexander (Nadav Cohen) “Do Neural Networks Need Gradient Descent to Generalize? A Theoretical Study”
2. Yuval Ran-Milo (Nadav Cohen) “Transformers Can Provably Learn Topological Sorting”
3. Yonatan Slutzky (Nadav Cohen) “The implicit Bias of Structured State Space Models Can be Poisoned with Clean Labels”
4. Yuval Koren (Lior Wolf) “Scaling Laws for Associative Recall in Mamba Models”
5. Sol Yarkoni (Roi Livni) “Low Resource Reconstruction Attacks Through Benign Prompts”
6. Adi Haviv (Roi Livni) “Not Every Image is Worth a Thousand Words: Quantifying Originality in Text-to-Image Models”
7. Liad Erez (Tomer Koren) “Fast Rates in Bandit Multiclass Classification”
8. Amit Attia (Tomer Koren) “Benefits of Learning Rate Annealing for Tuning-Robustness in Stochastic Optimization”
9. Matan Schliserman (Tomer Koren)
“Multiclass Loss Geometry Matters for Generalization of Gradient Descent in Separable Classification”
10. Shira Vansover-Hager (Tomer Koren) “Rapid Overfitting of Multi-Pass SGD in Stochastic Convex Optimization”
11. Nimrod Serok (Tal Pupko) “Using Neural Networks to infer multiple sequence alignments”
12. Ella Baumer (Tal Pupko) “Adaptive Deep Reinforcement Learning for Phylogenetic Tree Reconstruction”

DEEP
LEARNING