Ron Dorfman

Curriculum Vitae

Haifa, Israel
✉ rondorfman2@gmail.com
○ Github   in Linkedin

I am a PhD student in Technion, with a deep passion for machine learning and stochastic optimization. My ambition is to apply my skills and knowledge in this domain to excel in a challenging research-oriented internship role. Experienced in developing efficient algorithms with strong theoretical guarantees, and skilled in both independent and collaborative work, I am eager to bring my knowledge to a vibrant and innovative research team.

EDUCATION

2021–2024 **Ph.D. student in Electrical Engineering**, *Technion - Israel Institute of Technology*.
- Research interests: Stochastic optimization and adaptive methods in machine learning.
- Advised by Prof. Kfir Y. Levy.

2018–2020 **M.Sc in Electrical Engineering**, *Technion - Israel Institute of Technology*.
- Graduated summa cum laude (top 4%). GPA: 95.3. Final exam: 94.
- Meyer fellowship award for graduate students.
- Thesis title: *Offline Meta Reinforcement Learning of Efficient Exploration.*
- Advised by Prof. Aviv Tamar.

2014–2019 **B.Sc in Electrical Engineering**, *Technion - Israel Institute of Technology*.
- Graduated summa cum laude (top 3%). GPA: 93.8.
- Major in Machine Learning, Control Theory, and Signal & Image Processing.

WORK EXPERIENCE

2018–present **Teaching Assistant**, TECHNION - ISRAEL INSTITUTE OF TECHNOLOGY, Haifa, Israel.
- Intro. to Random Signal Processing (046201, Graduate level) – Winter 2018/19.
- Computational Methods in Optimization (046197, Graduate level) – Spring 2019-2023, Winter 2019/20.

2023 **Ph.D. Research Intern**, VMWARE RESEARCH (VRG), Herzliya, Israel.
- Worked on quantization strategies for resource efficiency of large language models (LLMs).
- Filed 3 patents.

2022 **Ph.D. Research Intern**, VMWARE RESEARCH (VRG), Herzliya, Israel.
- Developed a novel downlink compression pipeline for cross-device federated learning.
- Filed 2 patents; published a paper at ICML '23.

2018 **Research Intern**, CORNELL TECH, New York City, NY, USA.
Applying signal processing and machine learning techniques for classification of concussed patients based on ECG signals.

2017–2018 **Wireless Communications and Networks Group**, RAFAEL, Haifa, Israel.
Areas: Communications, Machine Learning, Signal Processing.

PROGRAMMING SKILLS

Languages   Python, MATLAB, C.
Deep Learning   Pytorch, Keras.

Research Projects

- **Detection and Localization of Cumulonimbus Clouds in Satellite Images**. Developing a joint space-time analysis framework of anomaly detection based on diffusion maps embedding and specific problem-related features. Received the **Wilk family award** for distinguished student's project. A paper was published at ICSEE 2018.
- **MAFAT Challenge - Fine-Grained Classification of Objects from Aerial Imagery**. Tackling the challenge of exploiting fine-grained information from aerial imagery data. Classifying objects into multiple granularity levels from high-resolution images using state-of-the-art computer vision and deep learning tools.

Publications

Pre-prints

2024 **Ron Dorfman**, Naseem Yehya, and Kfir Y Levy. Dynamic Byzantine-Robust Learning: Adapting to Switching Byzantine Workers. *arXiv preprint arXiv:2402.02951*, 2024.

In Conference Proceedings

2023 **Ron Dorfman**, Shay Vargaftik, Yaniv Ben-Itzhak, and Kfir Yehuda Levy. DoCoFL: Downlink Compression for Cross-Device Federated Learning. In *International Conference on Machine Learning (ICML)*, 2023.

2022 **Ron Dorfman** and Kfir Y Levy. Adapting to mixing time in stochastic optimization with markovian data. In *International Conference on Machine Learning (ICML)*, pages 5429–5446. PMLR, 2022. (**Long Talk, 2%**).

2021 **Ron Dorfman**, Idan Shenfeld, and Aviv Tamar. Offline Meta Reinforcement Learning– Identifiability Challenges and Effective Data Collection Strategies. *Advances in Neural Information Processing Systems (NeurIPS)*, volume 34, pages 4607–4618, 2021.

2018 **Ron Dorfman**, Etai Wagner, Almog Lahav, Alon Amar, Ronen Talmon, and Yaron Halle. Spatio-Temporal Detection of Cumulonimbus Clouds in Infrared Satellite Images. In *2018 IEEE International Conference on the Science of Electrical Engineering in Israel (ICSEE)*, pages 1–5. IEEE, 2018. **(Best Student Paper Award)**.