

Science and Engineering of Deep Learning

sedl.iclr2021@gmail.com

@SEDL_workshop

SEDL @ ICLR 2021

7th May

The workshop is now freely available here!

Science and Engineering of Deep Learning (SEDL) aims to bring about a venue where researchers and practitioners discuss **values in machine learning research**. We center discussions around two key questions:

1. *What set of scientific and real-world values should we implement to guide the theoretical and practical advances in deep learning?*
2. *Why should machine learning researchers be concerned about the broader impact of their research?*

Goals of SEDL 2.0



Workshop Schedule



The following papers were accepted as poster contribution in the workshop:

1. Dipam Paul (Emory University), Alankrita Tewari* (KIIT University), Jiwoong Jeong (Emory University), and Imon Banerjee (Emory University) *Boosting Classification Accuracy of Fertile Sperm Cell Images leveraging cDCGAN* [[poster](#)] [[paper](#)]
2. Harshay Shah* (Microsoft Research), Prateek Jain (Google), and Praneeth Netrapalli (Microsoft Research) *Do Input Gradients Highlight Discriminative Features?* [[paper](#)] Poster session 1
3. Yu-Lin Tsai* (National Chiao Tung University), Chia-Yi Hsu (National Yang Ming Chiao Tung University), Chia-Mu Yu (National Chiao Tung University), and Pin-Yu Chen (IBM Research) *Formalizing Generalization and Robustness of Neural Networks to Weight Perturbations* [[poster](#)] [[paper](#)] Both poster sessions
4. Arantxa Casanova* (FAIR / Mila), Michal Drozdzal (FAIR), and Adriana Romero-Soriano (FAIR) *Generating unseen complex scenes: are we there yet?* [[video](#)] [[poster](#)] [[paper](#)] Poster session 1
5. Hubert Etienne* (Facebook AI) *Solving moral dilemmas with AI to address the social implications of the Covid-19 crisis* [[paper](#)] Poster session 1
6. Tiffany Cai* (Columbia University), Jonathan Frankle (MIT), David Schwab (Facebook AI Research), and Ari S Morcos (FAIR) *Are all negatives created equal in contrastive instance discrimination?* [[video](#)] [[poster](#)] [[paper](#)] Poster session 2
7. Arlene E Siswanto* (MIT), Jonathan Frankle (MIT), and Michael Carbin (MIT) *Examining the Role of Normalization in the Lottery Ticket Hypothesis* [[video](#)] [[poster](#)] [[paper](#)] Poster session 2
8. Namhoon Lee* (UNIST), Philip Torr (University of Oxford), and Richard Hartley (Australian National University) *Optimal mini-batch size for stochastic gradient methods* [[poster](#)] [[paper](#)] Poster session 1
9. Camille Ballas* (Dublin City University), César Laurent (Mila, Université de Montréal), Thomas George (MILA, Université de Montréal), Nicolas Ballas (Facebook FAIR), Suzanne Little (Dublin City University, Ireland), and Pascal Vincent (Facebook FAIR & MILA Université de Montréal) *Investigating Loss-modelling Pruning Criteria for Unstructured Pruning* [[video](#)] [[poster](#)] [[paper](#)] Poster session 2
10. Samuel J Bell* (University of Cambridge) and Onno P Kampman (University of Cambridge) *Ideas for machine learning from psychology's reproducibility crisis* [[paper](#)]
11. Arlene E Siswanto* (MIT), Jonathan Frankle (MIT), and Michael Carbin (MIT) *Reconciling Sparse and Structured Pruning: A Scientific Study of Block Sparsity* [[video](#)] [[poster](#)] [[paper](#)] Poster session 2
12. Jiaxin Zhang* (Oak Ridge National Laboratory) and Victor Fung (Oak Ridge National Laboratory) *Efficient Inverse Learning for Materials Design and Discovery* [[paper](#)] Poster session 2
13. Rajiv Movva* (MIT), Jonathan Frankle (MIT), and Michael Carbin (MIT) *Studying the Consistency and Composability of Lottery Ticket Pruning Masks* Raj Movva [[video](#)] [[poster](#)] [[paper](#)] Poster session 2
14. Jessica Forde* (Brown University), A. Feder Cooper* (Cornell University), and Michael L. Littman (Brown University) *Model Selection's Disparate Impact in Real-World Deep Learning Applications* [[poster](#)] [[paper](#)] Both poster sessions
15. Saurabh Garg* (CMU), Joshua Zhanson (Carnegie Mellon University), Emilio Parisotto (Carnegie Mellon University), Adarsh Prasad (Carnegie Mellon University), Zico Kolter (Carnegie Mellon University); Sivaraman Balakrishnan (CMU), Zachary Lipton (Carnegie Mellon University), Ruslan Salakhutdinov (Carnegie Mellon University), and Pradeep Ravikumar (Carnegie Mellon University) *On Proximal Policy Optimization's Heavy-tailed Gradients* [[video](#)] [[poster](#)] [[paper](#)] Poster session 2

The "*" indicates people presenting the work at the poster session. In the list you can also find at which poster session they will participate.

Call for papers



FAQ



Speakers and Panelists



Adyasha Maharana

University of North Carolina



Joelle Pineau
Facebook AI Research



Pushmeet Kohli

DeepMind



Alex Hanna

Google



Adina Williams
Facebook AI Research



Deb Raji
AI Now Institute



Danielle Belgrave

Microsoft Research



Meredith Broussard

New York University



[Silvia Chiappa](#)

DeepMind



Jonathan Frankle

MIT



Sandra Wachter
University of Oxford

Moderators and advisors



Michela Paganini

DeepMind



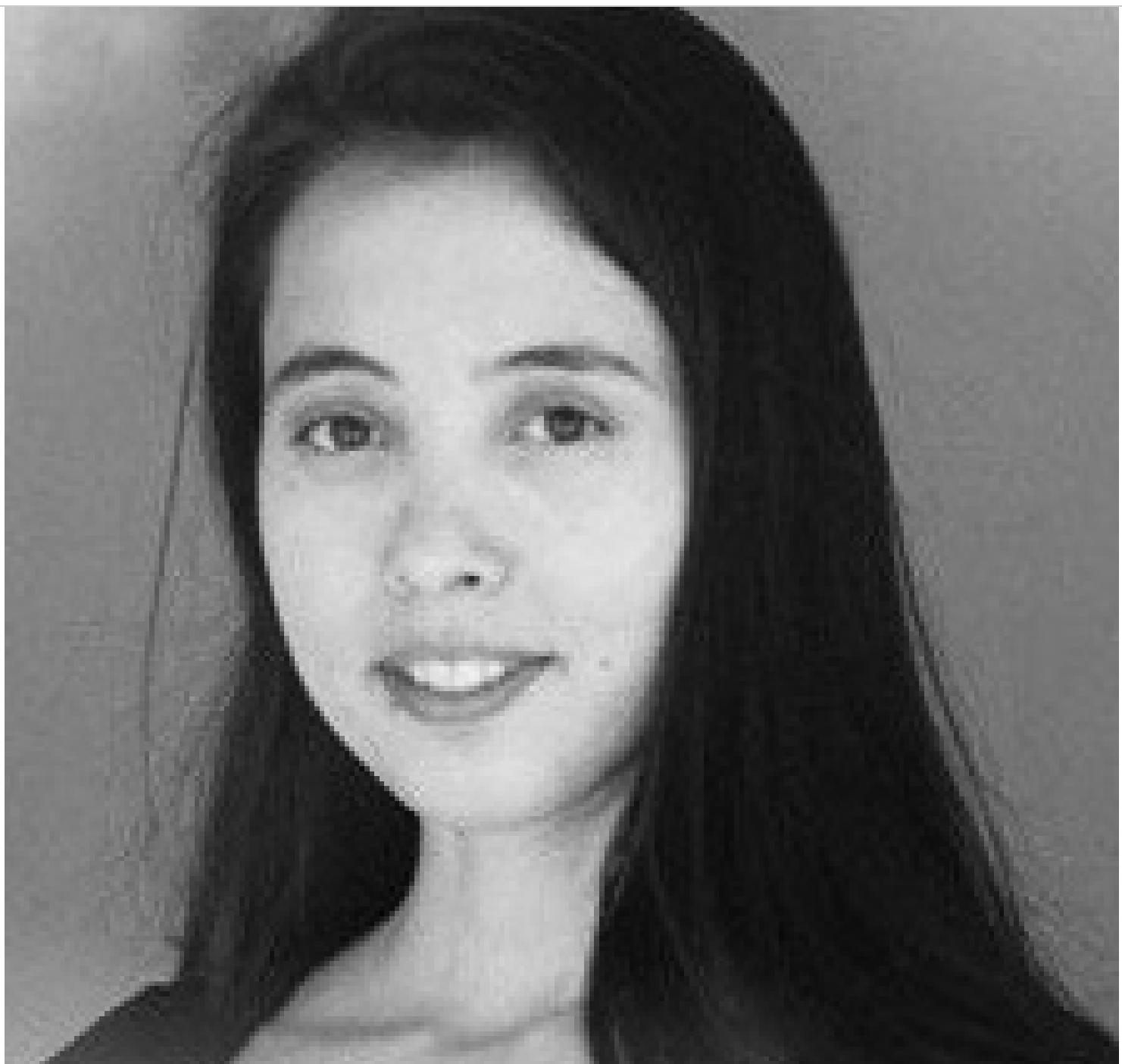
Vicente Ordonez-Roman

University of Virginia



Shakir Mohamed

DeepMind



Nafissa Yakubova

Facebook AI Research



[Emily Denton](#)

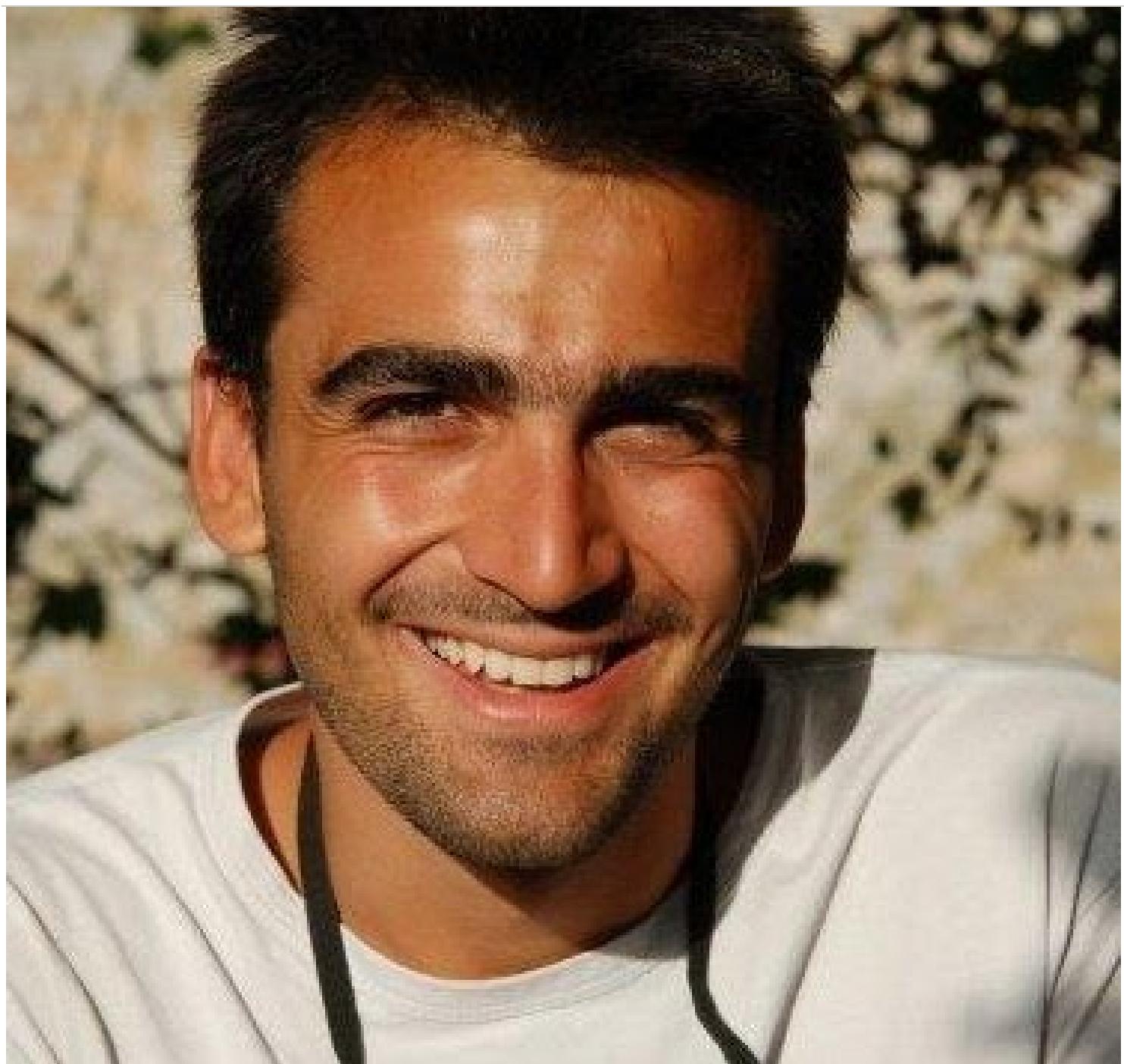
Google



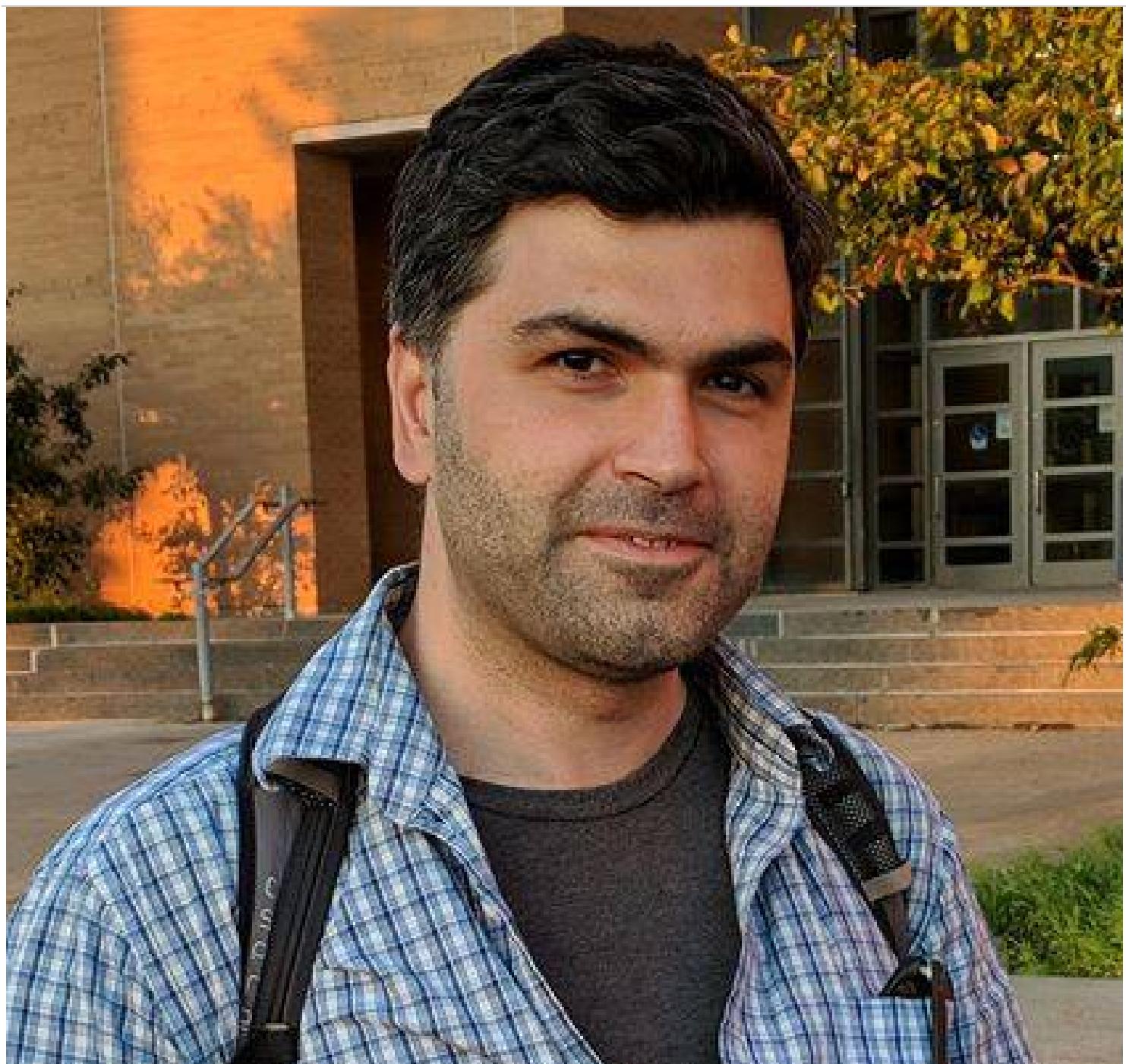
[Emily Dinan](#)

Facebook AI Research

Organizers

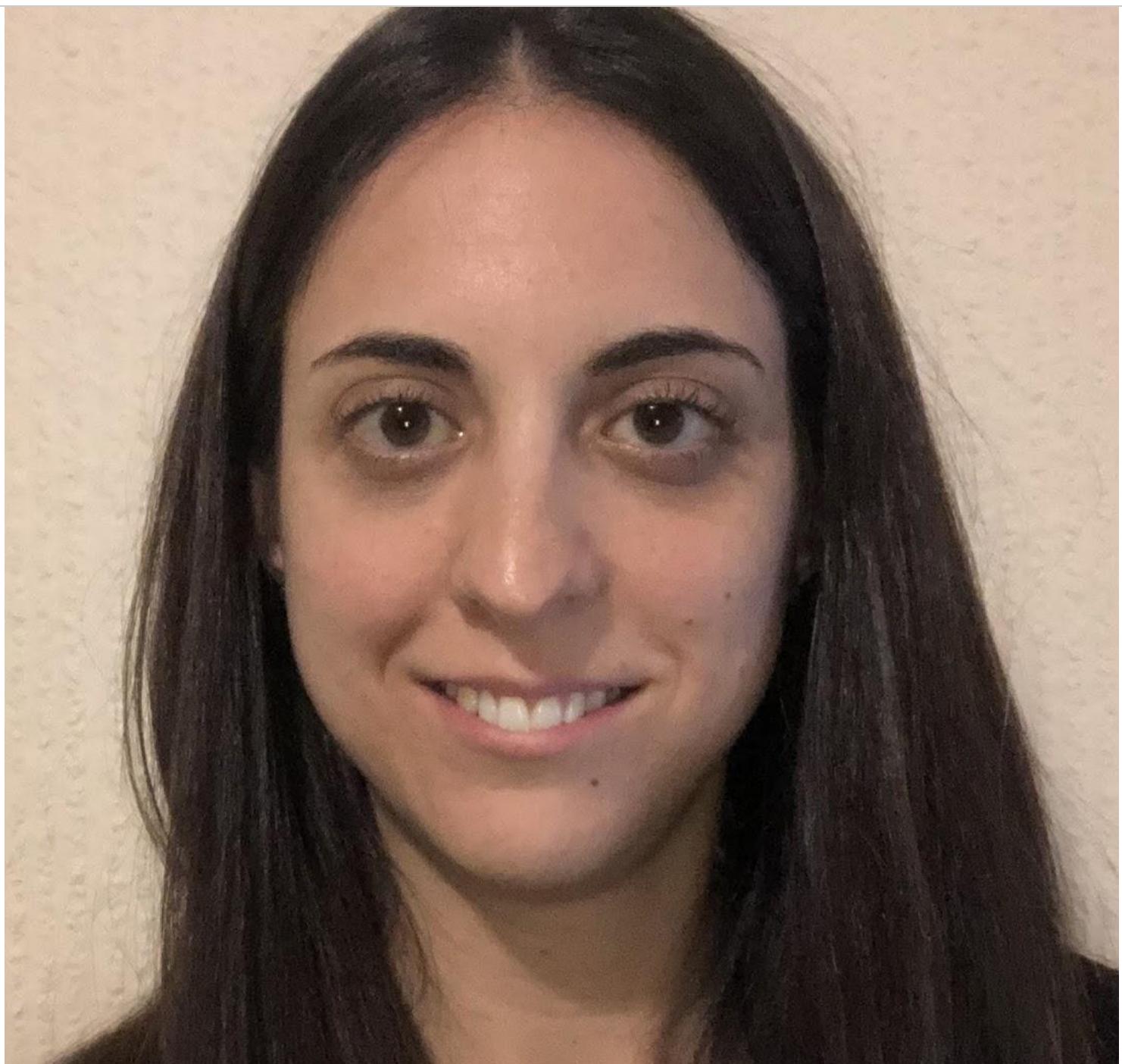


Levent Sagun
Facebook AI Research

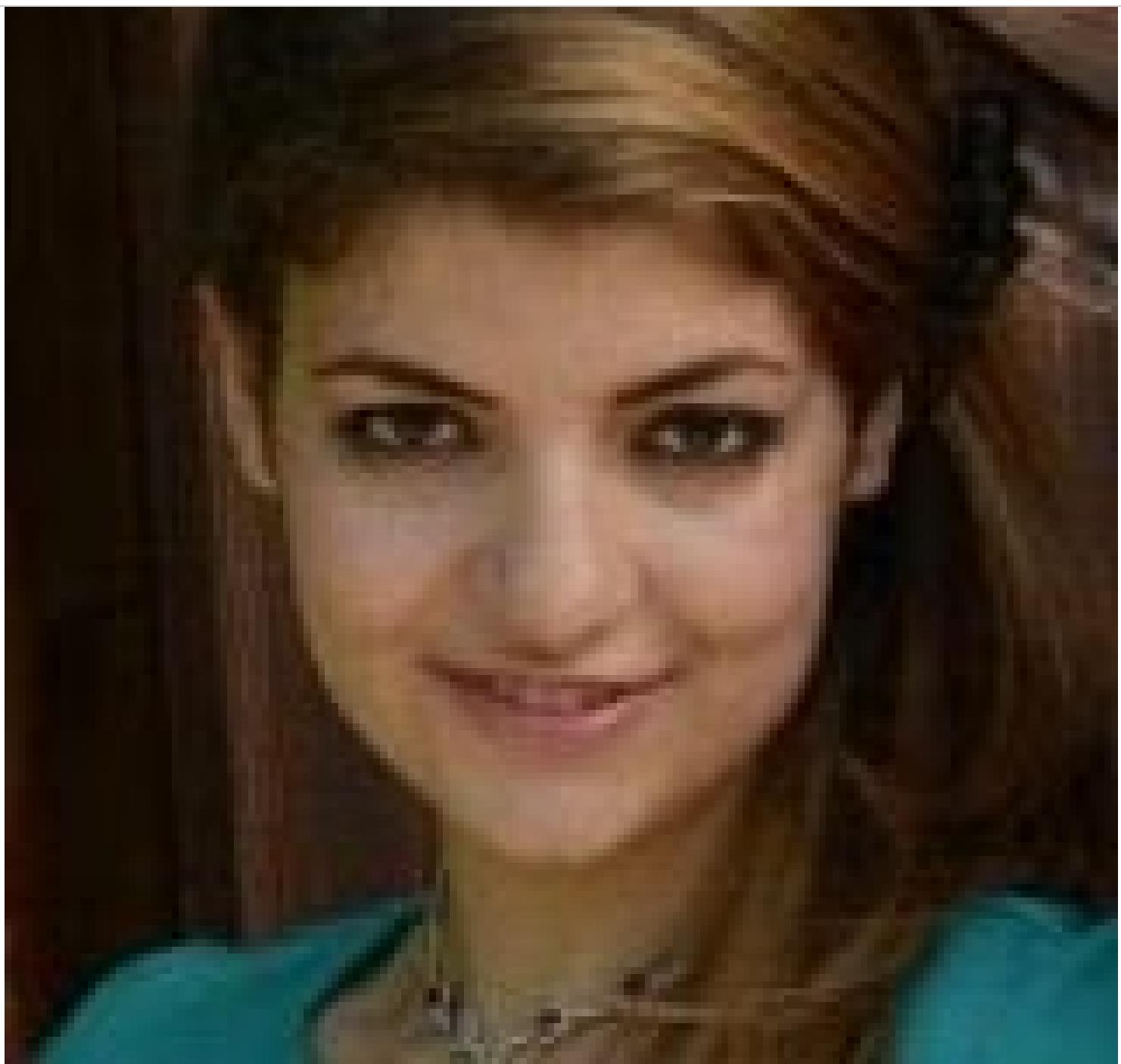


Caglar Gulcehre

DeepMind



Adriana Romero
Facebook AI Research



[Negar Rostemzadeh](#)

Google



Stefano Sarao Mannelli

University of Oxford



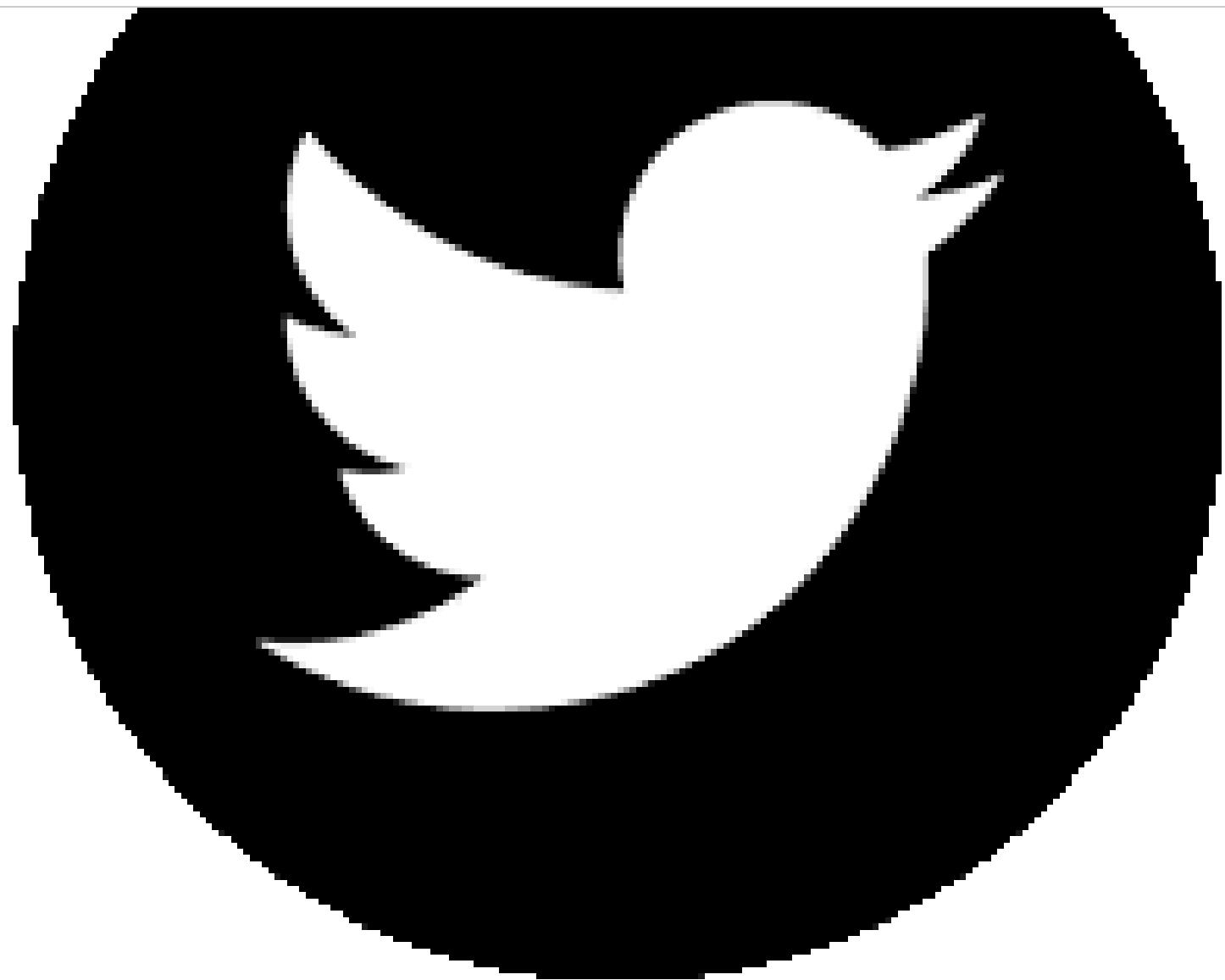
[Lenka Zdeborova](#)

EPFL



[Samy Bengio](#)

Apple

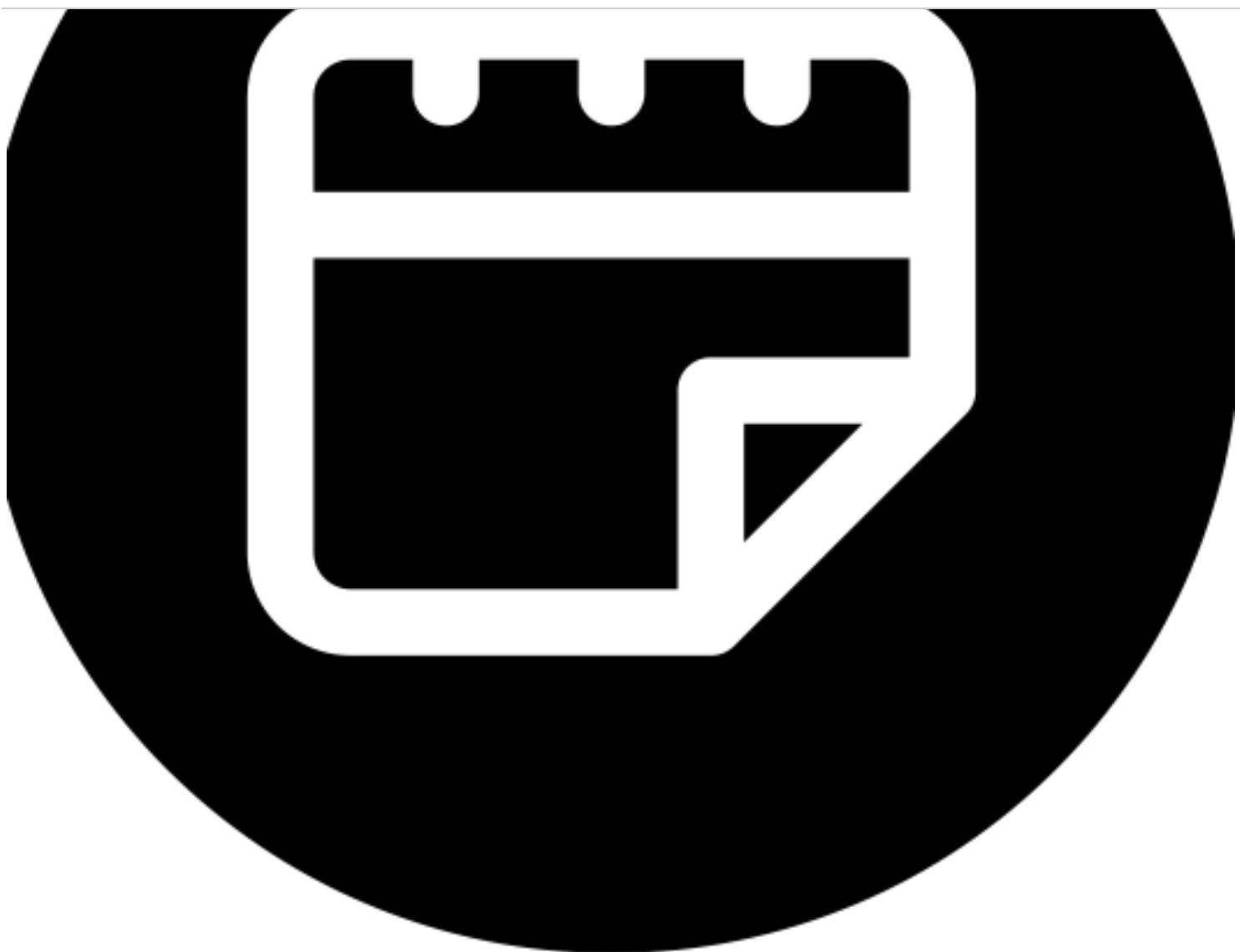


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