

# Rahim Entezari

Vienna, Austria  
+43 (681) 1061 7101  
rahim.entezari@gmail.com  
rahimentezari.github.io  
rahimentezari  
rahimentezari

## Education

- 2019–2023 **Ph.D.**, *Graz University of Technology*, Graz  
Optimization and Generalization of Neural Networks at the Edge
- 2014–2017 **MSc.**, *Iran University of Science and Technology*, Tehran  
Human Gaze estimation using probabilistic graphical models
- 2008–2013 **B.S.**, *Amirkabir University of Technology*, Tehran

## Experience

- 2023–now **Research Scientist**, *Stability.ai*, Vienna
- Mitigating memorization in diffusion models
  - Stable Diffusion 3: Data filtering, captioning, pre-training and finetuning, model expert training and merging, DPO, evaluation
- 2022–2022 **Research Intern**, *University of Washington*, Seattle
- Creating DataComp, a 12.8 billion multi-modal dataset and distributed training of the CLIP models
- 2021–2022 **Research Collaboration**, *Google*, remote
- Conducted several research projects leading to ICLR and ICML publications
  - Large-scale training of neural network on Google Cloud AI Vertex
- 2019–2021 **CTO & Co-founder**, *IREEN*, Vienna
- Build a real estate price prediction engine from scratch using computer vision and geographical data
  - Raised 400K € and increased the valuation to 2M € within one year
  - Managed a team of 4 remote data scientists and developers

## Honors and Awards

- 2021–2022 **Research Credit**, *Google*  
2×\$30,000 Google Cloud Credit for research proposals in collaboration with Google Research.
- 2022 **Marshall Plan Scholarship**, Vienna  
Austrian funding to transfer of knowledge between USA and Austria, 10% acceptance rate.
- 2020 **Trustworthy AI program**, *Austria Wirtschaftsservice*, Vienna  
Austrian government funding for startups worth of 200,000 €, 2% acceptance rate.

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## Selected Publications

- 2024 **ICML**, *Scaling Rectified Flow Transformers for High-Resolution Image Synthesis*  
Esser, P., Kulal, S., Blattmann, A., Entezari, R., Müller, J., Saini, H., Levi, Y., Lorenz, D., Sauer, A., Boesel, F., Podell, D., Dockhorn, T., English, Z., Lacey, K., Goodwin, A., Marek, Y., Rombach, R.
- 2023 **ICLR**, *REAPIR: Linear Mode Connectivity of Deep Neural Networks via Permutation Invariance and Renormalization*  
Jordan, K., Sedghi, H., Saukh O., Entezari, R., Neyshabur, B.
- 2022 **ICLR**, *The Role of Permutation Invariance in Linear Mode Connectivity of NN*  
Entezari, R., Sedghi, H., Saukh, O., Neyshabur, B.
- 2022 **ICML Workshop on "Pre-training: Perspectives, Pitfalls, and Paths Forward**, *How well do contrastively trained models transfer?*  
Shariatnia, M. \*, Entezari, R. \*, Wortsman, M., Saukh, O., Shmidt, L.
- 2022 **ICML Workshop on "Hardware Aware Efficient Training**, *Studying the impact of magnitude pruning on contrastive learning methods*  
Corti, F. \*, Entezari, R. \*, Hooker, H., Bacciu, D., Saukh, O.
- 2021 **ICML Workshop on "Over-parameterization: Pitfalls**, *Understanding the effect of sparsity on neural networks robustness*  
Timpl, L. \*, Entezari, R. \*, Sedghi, H., Neyshabur, B., Saukh, O.

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## Pre-prints

- 2022 **The Role of Pre-training Data in Transfer Learning**  
Entezari, R., Wortsman, M., Saukh O., Sedghi, H., Schmidt, L.

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## Selected Invited Talks

- Feb. 2023 IBM Research, MIT-IBM lab in Cambridge, MA
- Nov. 2022 Google Mountain View, Deep Learning Phenomena
- Feb. 2022 EPFL Virtual Symposium: Loss Landscape of Neural Networks
- Oct. 2021 Google Montreal - sparsity group

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## Technical skills

- Advanced PyTorch, Python
- Intermediate KERAS, C/C++,  $\text{\LaTeX}$ , MATLAB, Tensorflow
- Basic MySQL,

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## References

- Behnam Neyshabur **Google DeepMind**, Senior Staff Research Scientist  
neyshabur@google.com
- Hanie Sedghi **Google DeepMind**, Senior Research Scientist  
hsedghi@google.com
- Olga Saukh **Graz University of Technology**, Associate Professor  
saukh@tugraz.at