

GUY GAZIV

Curriculum Vitae



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webpage ggaziv.github.io

AI researcher with strong academic and industry experience. Trained as a physicist, engineer, and a computer scientist, and having background also in Neuroscience & Biology, I am a multidisciplinary scientist focused on the interface between machine and human vision.

EDUCATION:		
2016-2021	 Ph.D. Computer Science Weizmann Institute of Science Thesis title: "Decoding Visual Experience from Brain Activity" (Deep Learning Computer Vision Neuroscience) Advisor: Prof. Michal Irani 	
2013-2016	M.Sc. Physics Weizmann Institute of Science Thesis title: <i>"Motion Motifs: Dyadic Modes of Body Movement in Scientific Conversations"</i> Advisor: Prof. Uri Alon	
2008-2012	B.Sc. Electrical and Computer Engineering Hebrew University of Jerusalem Electronic and Photonic device track <i>magna cum laude</i>	
2001-2004	The Hebrew University Secondary School (Leyada)	
PROFESSIONAL	APPOINTMENTS:	
2022-present	Postdoctoral Researcher, Computer Vision & Brain MIT Host: Prof. James DiCarlo	
2021-2022	Postdoctoral Fellow, Computer Science Weizmann Institute of Science Host: Prof. Michal Irani	
2018-2022	AI Researcher & Consultant Intelligence Corps (3060/ 8200) Prototyping computer vision systems using Deep Learning	
2016-2018	Algorithm Developer FST Biometrics Implemented Deep Learning gait-based identification system. The system was designed for access control and retail markets	
2012-2013	Software Engineer Mellanox Technologies Developed a monitoring and management product for Ethernet and Infiniband interconnect systems, used for purposes of HPC, academic research and finance	
2010-2012	Hardware Engineer Intel Development of data centers Ethernet communication chips	
2007-2008	 Chief Commander, Israel Defense Force Intelligence Corps (8200) Head of wireless operation training program (steady service, officer role) Team leader and mentor of 10 commanders and 80 trainees Hundreds of alumni Designed courses and lectures: Arabic, intelligence professions, and education 	

TEACHING & MENTORING

- Aug 2023 Deep Generative Models, Brains Minds & Machines Summer Course, MA, USA
- 2019-present **Teaching Assistant, Weizmann Institute of Science** Course: Introduction to Computer Vision
- 2010-2011, Academic Tutor, Hebrew University of Jerusalem
- 2013-2016 Courses: Classical Mechanics, Electricity & Magnetism, Calculus

HONORS AND AWARDS

2008-2010 Dean's list, Faculty of Science, Hebrew University of Jerusalem
2008 Faculty Prize, Hebrew University of Jerusalem
2005 Wireless operations excellent trainee award, Intelligence Corps

GRANTS AND FELLOWSHIPS

2021 2021 Fulbright Postdoctoral Fellowship (declined)
 2021-present Weizmann Institute of Science Postdoctoral Fellowship
 2018 Prime Minister's office international summer school fellowship. The fellowship funds participation in 15th IAPR/Eurasip International Summer School for Advanced Studies on Biometrics for Secure Authentication.
 2016-2021 Weizmann Institute of Science PhD Fellowship
 2015 European Physical Society Travel Grant
 2013-2016 Weizmann Institute of Science MSc Fellowship

PUBLICATIONS

Published Peer-Reviewed Papers:

*equal contribution

- [1] Gaziv, G.*, Lee, M.*, & DiCarlo, J. (2023). <u>Strong and Precise Modulation of Human Percepts via</u> <u>Robustified ANNs.</u> In Advances in Neural Information Processing Systems (NeurIPS)
- [2] Gaziv, G.*, Beliy, R.*, Granot, N.*, Hoogi, A., Strappini, F., Golan, T., & Irani, M. (2022). <u>Self-Supervised</u> <u>Natural Image Reconstruction and Large-Scale Semantic Classification From Brain Activity.</u> *NeuroImage*
- [3] Beliy, R.*, **Gaziv, G**.*, Hoogi, A., Strappini, F., Golan, T., & Irani, M. (2019). <u>From Voxels to Pixels and</u> <u>Back: Self-Supervision in Natural-Image Reconstruction From fMRI.</u> *In Advances in Neural Information Processing Systems (NeurIPS)*
- [4] Grossman, S.*, Gaziv, G.*, Yeagle, E. M., Harel, M., Mégevand, P., Groppe, D. M., Khuvis, S., Herrero, J. L., Irani, M., Mehta, A. D., Malach R. (2019). <u>Convergent Evolution of Face Spaces Across Human Face-Selective Neuronal Groups and Deep Convolutional Networks</u>. *Nature Communications*
- [5] Gaziv, G., Noy, L., Liron, Y., & Alon, U. (2017). <u>A Reduced-Dimensionality Approach to Uncovering</u> Dyadic Modes of Body Motion in Conversations. *PLOS One*

Preprints:

- [6] Kupershmidt, G., Beliy, R., **Gaziv, G**., & Irani, M. (2022). <u>A Penny for Your (visual) Thoughts: Self-Supervised Reconstruction of Natural Movies from Brain Activity.</u> *arXiv*
- [7] Gaziv, G. & Irani, M. (2021). More Than Meets the Eye: Self-Supervised Depth Reconstruction From Brain Activity. arXiv

INVITED TALKS

- Feb 2024Strong and Precise Modulation of Human Percepts via Robustified ANNsVision & Al seminar, Weizmann Institute
- Feb 2024Robustified ANNs Reveal Wormholes Between Human Category PerceptsPixel Club, Technion
- Feb 2024 Vision Seminar, Tel-Aviv U.
- Feb 2024 Vision Seminar, *The Hebrew U.*
- Feb 2024 Creative Camera, Google
- Feb 2024 Computer Science Colloquium, Reichman U.
- Feb 2024 Gonda Brain Research Center, Bar Ilan U.
- Dec 2023 **Developing and validating models of the ventral visual stream via neural and behavioral modulation.** *Simons Collaboration on the Global Brain*
- Sep 2023 Robustified ANNs Reveal Wormholes Between Human Category Percepts Carney Institute for Brain Science, *Brown U.*
- Jul 2023 Deploying Model of Vision: From Mind Reading to Behavior Modulation Recording VisCAM, *Google*

Mind Reading: Decoding Visual Experience from Brain Activity

- Apr 2022 Brain & Al, Meta
- Mar 2022 Rafael Computer Vision, Leshem Institute
- Feb 2022 Sagol Neurobiology Dept, Haifa U.
- Dec 2021 AAAI Seminar, 8200 🎬 Recording
- Nov 2021 Computer Science Colloquium, Tel-Aviv U.
- Nov 2021 Computer Science Colloquium, Reichman U.
- Nov 2021 Computer Science Colloquium, Ben Gurion U.
- Oct 2021 Gonda Brain Research Center, Bar Ilan U.
- Oct 2021 Self-Supervised Natural Image Reconstruction and Rich Semantic Classification From Brain Activity Israeli Conference on Medical Informatics (ICMI)

Recording

- Jan 2021 GIDRM 2020 workshop on Artificial Intelligence in NMR/MRI and Neuroscience
- Jan 2020 Self-Supervision in Natural-Image Reconstruction From fMRI Recording Israel Computer Vision Day 2019, *Tel-Aviv U*.
- Jan 2020 Pixel Club, Technion
- Oct 2019 Vision Seminar, The Hebrew U.

POSTER PRESENTATIONS

- Dec 2023 Strong and Precise Modulation of Human Percepts via Robustified ANNs, NeurIPS
- Jan 2021 Self-Supervised Natural Image Reconstruction and Rich Semantic Classification from Brain Activity, SfN Global Connectome
- Oct 2020 IMVC (Israel Machine Vision Conference)
- Aug 2020 Brain Minds & Machines Summer Course, MIT
- Dec 2019 Self-supervision in Natural-Image Reconstruction from fMRI, NeurIPS
- Nov 2019 AI Week, Tel Aviv U.
- Jul 2019 The Algonauts Workshop, *MIT*
- Mar 2018 In Motion Identification Based on Gait, IMVC
- Jun 2015 Nonverbal communication in scientific conversations, Granada Seminar on Computational and Statistical Physics

OTHER PROFESSIONAL ACTIVITIES

- Aug 2023 TA in the Brains Minds & Machines (BMM) Summer Course, Woods Hole MA, USA
- Aug 2020 Participated in the Brains Minds & Machines (BMM) Summer Course, MIT (virtual)
- Jul 2019 Participated in the <u>Algonauts 2019 Challenge</u> and workshop, *MIT*
 - I was ranked 3 and 4 in fMRI and MEG challenge tracks
 - Presented a poster on image reconstruction from fMRI at the workshop
- Jun 2018 Participated in the 15th international Summer School for Advanced Studies on "Assuring Trustworthiness of Biometrics", Alegro, Italy

Reviewer: Cosyne (2023)

PROGRAMMING/CAD EXPERIENCE

Python, MATLAB, PyTorch, TF, Keras, Caffe, Java, Specman (e), bash, c#, .Net, Unity3D, Solidworks

HOBBIES AND INTERESTS

•	Woodworking, Gardening	Hebrew	****
٠	Yoga teacher	English	****
٠	Piano, guitar, didgeridoo	Arabic	****
•	Design and fly radio-controlled airplane, helicopter & quadcopter models		

LANGUAGES