Curriculum Vitae

Amir Ivry

Education

2018–2023 **Ph.D.** (direct track), Electrical and Computer Engineering, Technion
Dissertation title: *"Deep Learning-based Acoustic-echo Cancellation"* (View)
Published 10 peer-reviewed papers
Advisors: Prof. Israel Cohen and Dr. Baruch Berdugo

2011–2015 **B.Sc.**, Electrical Engineering, Technion
Published 1 peer-reviewed paper
Specialized in machine learning and signal processing.

Academic Appointments

2024–now Visiting Researcher, Electrical and Computer Engineering, Technion

Professional Experience

2023–2025 **Head of Data, Teams**, Microsoft, Hertzliya
2022–2023 **Principal Research Scientist, Advanced Technology Labs**, Microsoft, Hertzliya
2021–2022 **Research Intern, Advanced Technology Labs**, Microsoft, Hertzliya

2018–2021 **Senior Researcher**, Prime Minister's Office, Tel-Aviv
2015–2018 **Researcher**, Prime Minister's Office, Tel-Aviv

Research Interests

My research focuses on speech, spoken language processing, and audio analysis, with a specific emphasis on perceptual evaluation. I aim to address a longstanding challenge in the field—the lack of statistically reliable and perceptually aligned evaluation methods for speech systems. By developing principled, data-driven metrics that correlate strongly with human auditory perception, I seek to establish a consistent and trustworthy foundation for assessing the performance of modern speech and audio technologies. This effort contributes to fixing what I term the "broken compass" that has historically misdirected research priorities in speech technology evaluation.

Teaching Experience

2019–2020 **Array Signal Processing and Analysis**, Teaching Assistant
Graduate level

Awards and Honors

2024 Zuckerman Postdoctoral Grant (chosen by faculty, forfeited moving forward)
2024 Microsoft Creativity Award (for developing the accent softening system)
2022 Forbes 30 under 30
2021 Outstanding Data Science Research Award, CHE Israel
2021 ISCA Grant, chosen for Interspeech Doctoral Consortium

2020	Jacobs Research Award for Graduate Students
2019	Jacobs Research Award for Graduate Students
2019	IDF Researcher Grants ("Dirug Mehkar")
2019	Israel Defense Award
2018	Israel Defense Award
2016	IMOD Award for Creative Thinking

Publications (195 citations, h-index 7; 3 manuscripts in preparation)

Peer-reviewed Journals

- **Ivry, A.**, Cohen, I., and Berdugo, B. "A User-centric Approach for Deep Residual-Echo Suppression in Double-talk," *IEEE/ACM Transactions on Audio, Speech and Language Processing*, Vol. 32, pp. 1901–1914, March 2024.
- **Ivry, A.**, Fisher, E., Alimi, R., Mosseri, I., and Nahir, K. "Multiclass Permanent Magnets Superstructure for Indoor Localization Using Artificial Intelligence," *IEEE Transactions on Magnetics*, 58(2), pp. 1–6, 2021.
- Fisher, E., **Ivry, A.**, Alimi, R., and Weiss, E. "Smartphone-based Indoor Localization Using Permanent Magnets and Artificial Intelligence for Pattern Recognition," *AIP Advances*, 11(1), 2021.
- **Ivry, A.**, Berdugo, B., and Cohen, I. "Voice Activity Detection for Transient Noisy Environment Based on Diffusion Nets," *IEEE Journal of Selected Topics in Signal Processing*, 13(2), pp. 254–264, 2019.
- Alimi, R., Fisher, E., **Ivry, A.**, Shavit, A., and Weiss, E. "Low Power in-Situ AI Calibration of a Three-Axial Magnetic Sensor," *IEEE Transactions on Magnetics*, 55(7), pp. 1–7, 2019.
- Alimi, R., **Ivry, A.**, Fisher, E., and Weiss, E. "Machine-Learning Detection Algorithms for Large Barkhausen Jumps in Cluttered Environment," *IEEE Magnetics Letters*, 10, pp. 1–5, 2019.
- Weiss, E., Alimi, R., **Ivry, A.**, Fisher, E. "Investigation and Modeling of Large Barkhausen Jumps Dynamics in Low-power Fluxgate Magnetometers," *IEEE Sensors Journal*, 19(6), pp. 2105–2112, 2018.

Peer-reviewed Conferences

- **Ivry, A.**, and Cohen, I. "E-URES 2.0: Efficient User-centric Residual-Echo Suppression Framework with a Lightweight Neural Network," In *Proc. ICASSP*, 2025.
- **Ivry, A.**, and Cohen, I. "E-URES: Efficient User-centric Residual-Echo Suppression Framework with a Data-Driven Approach to Reducing Computational Costs," In *Proc. IWAENC*, 2024. Special Session.
- Vinnikov, A., **Ivry, A.**, Hurvitz, A., Abramovski, I., Koubi, S., Gurvich, I., and others. "NOTSOFAR-1 Challenge: New Datasets, Baseline, and Tasks for Distant Meeting Transcription," In *Proc. Interspeech*, 2024.
- **Ivry, A.**, Cohen, I., and Berdugo, B. "Deep Adaptation Control for Stereophonic Acoustic Echo Cancellation," In *Proc. WASPAA*, 2023.
- **Ivry, A.**, Cohen, I., and Berdugo, B. "Objective Metrics to Evaluate Residual-Echo Suppression During Double-Talk in the Stereophonic Case," In *Proc. Interspeech*, 2022.
- **Ivry, A.**, Cohen, I., and Berdugo, B. "Deep Adaptation Control for Acoustic Echo Cancellation," In *Proc. ICASSP*, 2022.
- **Ivry, A.**, Cohen, I., and Berdugo, B. "Off-the-shelf Deep Integration for Residual-Echo Suppression," In *Proc. ICASSP*, 2022.
- **Ivry, A.**, Cohen, I., and Berdugo, B. "Objective Metrics to Evaluate Residual-Echo Suppression during Double-Talk," In *Proc. WASPAA*, 2021.

- **Ivry, A.**, Cohen, I., and Berdugo, B. "Nonlinear Acoustic Echo Cancellation with Deep Learning," In *Proc. Interspeech*, 2021.
- **Ivry, A.**, Cohen, I., and Berdugo, B. "Deep Residual Echo Suppression with Tunable Tradeoff between Signal Distortion and Echo Suppression," In *Proc. ICASSP*, 2021.
- **Ivry, A.**, Cohen, I., and Berdugo, B. "Evaluation of Deep-Learning-Based Voice Activity Detectors and Room Impulse Response Models in Reverberant Environments," In *Proc. ICASSP*, 2020.
- Benisty, H., Furman, D., Abramovich, T., **Ivry, A.**, and Pratt, H. "Enhancement of BCI Classifiers through Domain Adaptation," In *Proc. IEEE International Conference on the Science of Electrical Engineering (ICSEE)*, pp. 1–5, 2016.

In-review Peer-reviewed Conferences

- Ivry-mark, N., Shiovitz, N., **Ivry, A.**, Topolsky, Y., and Adam, D. "A Reproducible Annotation Protocol for New Measures of Quality and Consistency in Lung Ultrasound: Enhancing Reliable, Bias-Resilient, and Explainable Clinical Care," *IEEE IUS*, 2025.
- Ivry-mark, N., Shiovitz, N., **Ivry, A.**, Topolsky, Y., and Adam, D. "Efficient and Affordable Classification of new Measures of Quality and Consistency in Lung Ultrasound using a Backbone Vision-Language Model," *IEEE IUS*, 2025.

Technical Reports

- Abramovski, I., Vinnikov, A., Shaer, S., Kanda, N., Wang, X., **Ivry, A.**, and Krupka, E. "Summary of the NOTSOFAR-1 Challenge: Highlights and Learnings," *arXiv preprint arXiv:2501.17304*, 2025.

Books Edited

- Kashani, S., and **Ivry, A.** *Deep Learning Interviews: Hundreds of Fully Solved Job Interview Questions from a Wide Range of Key Topics in AI*. Amazon Publishing, 2021.

Academic Service

- Journals Reviewer: IEEE Signal Processing Letters, IEEE Transactions on Signal Processing, EURASIP
- Conferences Reviewer: ICASSP, Interspeech

Students Supervised

PhD theses in progress

2025-now Gil Weissman

MSc theses in progress

2024-now Yair Amar
2024-now Tomer Melnik
2025-now Rotem Green

Membership in Professional Societies

2024-now IEEE Israel AI Chapter Chairman
2023-now IEEE Senior Member