Efthymios Tzinis

CONTACT
INFORMATION

Work-email: etzinis@google.com **Google homepage:** Google-research profile 🌐
etzinis @ etzinis.com 🌐 - Github: ⚫ - LinkedIn: 🔷 - Scholar: 🎓 - Twitter: 🐦 - YouTube: ▶️

RESEARCH
INTERESTS

Audio-visual signal processing, sound source separation,
unsupervised / self-supervised deep learning, on-device / federated learning

EDUCATION

University of Illinois at Urbana Champaign (UIUC)   Aug 2018 - May 2023

PhD in Computer Science (CS)

− Area: Artificial Intelligence
− GPA: *4.00/4.00*
− Dissertation: ***Unsupervised sound separation*** 📄 📊
  Introduced the first algorithms to train sound separation systems using only mixtures of signals.
  Extended the application of such algorithms to audio-visual perception models and distributed
  frameworks which can be trained using federated learning approaches. Proposed the first pre-
  trained encoder/decoder pairs tailored towards training sound separation models and investigated
  methods to analyze and obtain compute and memory efficient neural audio processing architectures.
− Advisor: Prof. Paris Smaragdis 🎓
− Selected Courses: *Machine Learning for Signal Processing, Deep Learning,*
  Computational Inference and Learning, Optimization in Computer Vision,
  Machine Learning, Deep Learning Theory, Probabilistic & Approximate Computing

National Technical University of Athens (NTUA)   Oct 2012 - June 2018

Diploma (BS + MEng) in Electrical & Computer Engineering (ECE)

− Highest Honors (top 2%), GPA: *9.36/10.00*
− Major: Computer Science, Major GPA (2 last years): *9.56/10.00*
− Thesis: ***Manifold Learning and Nonlinear Recurrence Dynamics for***
  Speech Emotion Recognition on Various Timescales 📄 📊
− Advisor: Prof. Alexandros Potamianos 🎓

Arsakeio Tositseio Ekalis Lyceum, Athens, Greece   Sept 2009 - July 2012

Apolytirion, Highest Honors

− Top 0.1% in national qualifying exams (score: 19,713/20,000), GPA: *19.5/20*

PROFESSIONAL
EXPERIENCE

Google LLC
Cambridge, MA, USA   June 2023 - Present

Research Scientist

− Pixel phone audio-visual perception technology
− Sound separation and generative modeling for audio processing
− Managers: Robert Dalton Jr. 🔷 and Dr. John R. Hershey 🎓

Google LLC
Cambridge, MA, USA   May 2022 - Aug 2022

Research Intern at Google AI Perception

− Contrastive and improved audio-visual on-screen sound separation
− Audio-visual scene editing assistant with AudioScope
− Managers: Dr. Scott Wisdom 🎓 & Dr. John R. Hershey 🎓

Mitsubishi Electric Research Laboratories, Inc. (MERL)

Cambridge, MA, USA (Working remotely)   Sept 2021 - May 2022

    Student Researcher at the Speech and Audio Team

- The first system that uses heterogeneous semantic concepts to separate speech mixtures
- Optimal multi-condition training for sound separation
- Delivered a state-of-the-art system for text-based sound separation
- Managers: Dr. Jonathan Le Roux 🎓 & Dr. Gordon Wichern 🎓

Meta Platforms, Inc. (ex-Facebook, Inc.)

Redmond, WA, USA (Working remotely)   May 2021 - Aug 2021

    Research Intern at Reality Labs at Meta (ex-FRL)

- The first self-supervised speech denoising method with no in-domain assumptions
- Unsupervised and test-time zero-shot domain adaptation
- Semi-supervised domain generalization for speech enhancement
- Manager: Dr. Anurag Kumar 🎓

Google LLC

Cambridge, MA, USA (Working remotely)   May 2020 - May 2021

    Student Researcher at Google AI Perception   Aug 2020 - May 2021

- In-the-wild audio-visual universal sound source separation of on-screen sounds
- AudioScope 2.0 with improved spatio-temporal alignment of universal on-screen sounds
- Efficient transformer-based audio-visual perception
- Managers: Dr. Scott Wisdom 🎓 & Dr. John R. Hershey 🎓

    Research Intern at Google AI Perception   May 2020 - Aug 2020

- Unsupervised single channel sound source separation
- State-of-the-art purely unsupervised performance with mixture invariant training
- Managers: Dr. Scott Wisdom 🎓 & Dr. John R. Hershey 🎓

Google LLC

Cambridge, MA, USA   May 2019 - Aug 2019

    Research Intern at Google AI Perception

- Utilizing sound classification for improving universal source separation
- Conditioning separation models using semantic representations of multiple sound classes
- Managers: Dr. Scott Wisdom 🎓 & Dr. John R. Hershey 🎓

Behavioral Signal Technologies, Inc.

Los Angeles, CA, USA (Working remotely)   May 2017 - July 2018

    Machine Learning Engineer

- Leading the machine learning infrastructure framework development
- Implementing graph-structured pipelines for model training and feature extraction
- Developing efficient real-time speech processing APIs
- Building cognitive-affect, ASR and speaker diarization models
- Managers: Dr. Thodoris Giannakopoulos 🎓 & Dr. Nassos Katsamanis 🎓

ATHENA Research Center

Marousi, Greece   May 2016 - July 2018

    Research Assistant at Institute for Language and Speech Processing (ILSP)

- European project *BabyRobot* supported by *Horizon 2020* grant
- Real time speech emotion recognition and multimodal engagement detection
- Supervisor: Prof. Alexandros Potamianos 🎓

SBA Research - Technological University of Vienna
Vienna, Austria   July 2016 - Aug 2016

    Research Intern, International Student Exchange Association (IAESTE)

- Project: Seatlock, automatic screen locker for increased computer security
- Implementing circuit level connection for pressure sensors
- Programming Bluetooth low energy microprocessor to transmit encrypted messages
- Developing Linux and Windows applications for screen locking and monitoring
- Supervisor: Dr. Adrian Dabrowski 🎓

Ernst & Young Global Limited (EY)
Athens, Greece   July 2015 - Oct 2015

    Intern at the IT Advisory department

- Piraeus Bank's database maintenance (external partner)
- Financial data analysis and risk prediction
- Supervisor: Evangelos Kaslis 🔗

HONORS &
AWARDS

ICASSP Outstanding Reviewer Award   2023
Awarded to the top 5% of the reviewers (220/4445)

Google's PhD Fellowship ($ 77,000 per academic year)   2022-2023
in **Machine Perception, Speech Technology and Computer Vision**
Awarded to exceptional PhD students who represent the future of research in CS fields

ICML Top Reviewer Award ($ 1,080 registration)   2022
Awarded to the top 10% of the reviewers

UIUC's C.L. and Jane Liu Award ($ 3,000)   2022
Awarded annually to one PhD student showing exceptional research promise

ICLR Highlighted Reviewer   2022
Awarded to the top 8.8% of the reviewers (492/5589)

NeurIPS Outstanding Reviewer Award   2021
Awarded to the top 8% of the reviewers

Google's PhD Fellowship Nominee   2021
Nominated to represent the UIUC to the worldwide competition

Google on the Spot Bonus ($ 1,500)   2021
Awarded a bonus for my 9-month part-time job as a student researcher
considering the final outcome of the project and my code delivery efficiency.

Facebook's PhD Fellowship Finalist   2021
Top 3.5% of submitted applications globally

Apple's Scholars in AI/ML PhD Fellowship Nominee   2020
Nominated to represent the UIUC to the national competition

UIUC's Computer Science Excellence Fellowship ($ 6,740)   2018
Awarded to recruit and support promising incoming CS graduate students

HiPEAC Student Challenge Certificate with NTUA's team, Zagreb, Croatia 2017
GPU parallelization of K-means algorithm using sparse matrix operations

Joint 1st place in EESTech Machine Learning Challenge, Athens, Greece   2017
Solving supervised classification problems (participation: 40 teams)

Participation & Distinction   2015-2017
Programming contests: Code Jam, Hash Code, Codechef, IEEE Xtreme (top 5%)

Paris Kanellakis Fellowship for NTUA-ECE ($ 2,336)   2014-2016
Highest GPA in the computer science specialization between 5th-8th semesters

"The Great Moment of Education" Eurobank EFG Scholarship ($ 1,168) 2012
Highest rank in national qualifying exams in my school (Score: 19,713/20,000)

Award from Cultural Society of Santorini 2012
Achieved the 7th highest entering score in NTUA, ECE department

Distinction 2011
Maths & Physics competitions for students from all Greek high schools

CONFERENCE
PUBLICATIONS

[C23] Bralios, D., **Tzinis, E.**, and Smaragdis, P., "Complete and separate: Conditional separation with missing target source attribute completion." To appear in *IEEE Workshop on Applications of Signal Processing to Audio and Acoustics*, 2023.
[WASPAA 2023] – **Oral Presentation** – ⚲ 🄿

[C22] **Tzinis, E.**, Wichern G., Smaragdis, P., and Le Roux, J., "Optimal Condition Training for Target Source Separation." Submitted to *International Conference of Acoustics, Speech and Signal Processing (ICASSP)*, 2023 (to appear).
[ICASSP 2023] – **Oral Presentation** – ⚲ 🄿 🎥 📊 🎧

[C21] Bralios, D., **Tzinis, E.**, Wichern G., Smaragdis, P., and Le Roux, J., "Latent Iterative Refinement for Modular Source Separation." Submitted to *International Conference of Acoustics, Speech and Signal Processing (ICASSP)*, 2023 (to appear).
[ICASSP 2023] – **Oral Presentation** – ⚲ 🄿

[C20] **Tzinis, E.**, Wisdom, S., Remez, T., and Hershey, J. R., "AudioScopeV2: Audio-Visual Attention Architectures for Calibrated Open-Domain On-Screen Sound Separation." In Proceedings of *European Conference on Computer Vision* 2022, pp. 368–385.
[ECCV 2022] – Poster – ⚲ 🄿 🎥 📊 🎧 👁

[C19] **Tzinis, E.**, Wichern G., Subramanian, A., Smaragdis, P., and Le Roux, J., "Heterogeneous target speech separation." In Proceedings of *Interspeech*, 2022, pp. 1796-1800.
[Interspeech 2022] – **Oral Presentation** – ⚲ 🄿 🎥 📊 🎧 👁

[C18] **Tzinis, E.**, Adi Y., Ithapu, V. K., Xu B., Kumar, A., "Continual self-training with boot-strapped remixing for speech enhancement." In Proceedings of *International Conference of Acoustics, Speech and Signal Processing*, 2022, pp. 6947-6951.
[ICASSP 2022] – Poster – ⚲ 🄿 🎧 🎥 📊 👁

[C17] **Tzinis, E.**, Casebeer, J., Wang, Z., and Smaragdis, P., "Separate but Together: Unsupervised Federated Learning for Speech Enhancement from non-IID Data." In Proceedings of *IEEE Workshop on Applications of Signal Processing to Audio and Acoustics* 2021, pp. 46–50.
[WASPAA 2021] – Poster – ⚲ 🄿 🎥 📊 🎧

[C16] Wang, Z., Casebeer, J., Clemmitt, A., **Tzinis, E.**, and Smaragdis, P., "Sound Event Detection with Adaptive Frequency Selection." In Proceedings of *IEEE Workshop on Applications of Signal Processing to Audio and Acoustics* 2021, pp. 41–45.
[WASPAA 2021] – Poster – ⚲ 🄿 🎧

[C15] **Tzinis, E.**, Wisdom, S., Jensen, A., Hershey, S., Remez, T., Ellis, D. P., and Hershey, J. R., "Into the Wild with AudioScope: Unsupervised Audio-Visual Separation of On-Screen Sounds." In Proceedings of *International Conference on Learning Representations*, 2021.
[ICLR 2021] – Poster – ⚲ 🄿 🎥 📊 👁

[C14] **Tzinis, E.**[†], Bralios, D.[†], Smaragdis, P. "Unified Gradient Reweighting for Model Biasing with Applications to Source Separation." In Proceedings of *International Conference of Acoustics, Speech and Signal Processing*, 2021, pp. 531–535.
[ICASSP 2021] – Poster – ⚲ 🄿 🎧 🎥 📊 👁

[C13] Wisdom, S., **Tzinis, E.**, Erdogan, H., Weiss, R. J., Wilson, K., and Hershey, J. R., "Unsupervised Sound Separation Using Mixture Invariant Training." In *Advances in Neural Information Processing Systems*, vol. 33, pp. 3846–3857, 2022.
[NeurIPS 2020] – **Spotlight (top 4% of submitted papers)** – ⚲ 🄿 🎥

[C12] Pariente, M., Cornell, S., Cosentino, J., Sivasankaran, S., **Tzinis, E.**, Heitkaemper, J., Olvera, M., Stöter, F.R., Hu, M., Martín-Doñas, J.M. and Ditter, D., "Asteroid: the PyTorch-based audio source separation toolkit for researchers." In Proceedings of *Interspeech*, 2020, pp. 2637–2641.
[Interspeech 2020] – Poster – 🔗📄🎧

[C11] **Tzinis, E.**, Wang, Z., and Smaragdis, P., "Sudo rm -rf: Efficient Networks for Universal Audio Source Separation." In Proceedings of *IEEE International Workshop on Machine Learning for Signal Processing*, 2020, pp. 1–6.
[MLSP 2020] – **Oral Presentation** – 🔗📄🎧🎥📊

[C10] **Tzinis, E.**, Venkataramani, S., Wang, Z., Subakan, Y. C., and Smaragdis, P., "Two-Step Sound Source Separation: Training on Learned Latent Targets." In Proceedings of *International Conference of Acoustics, Speech and Signal Processing*, 2020, pp. 31–35.
[ICASSP 2020] – **Oral Presentation** – 🔗📄🎧🎥📊

[C9] **Tzinis, E.**, Wisdom, S., Hershey, J.R., Jansen, A. and Ellis, D.P., "Improving Universal Sound Separation Using Sound Classification." In Proceedings of *International Conference of Acoustics, Speech and Signal Processing*, 2020, pp. 96–100.
[ICASSP 2020] – **Oral Presentation** – 🔗📄🎥📊

[C8] Venkataramani, S., **Tzinis, E.** and Smaragdis, P., "End-to-end Non-Negative Autoencoders for Sound Source Separation." In Proceedings of *International Conference of Acoustics, Speech and Signal Processing*, 2020, pp. 116–120.
[ICASSP 2020] – **Oral Presentation** – 🔗📄

[C7] Paraskevopoulos, G., **Tzinis, E.**, Ellinas, N., Giannakopoulos, T. and Potamianos, A., "Unsupervised low-rank representations for speech emotion recognition." In Proceedings of *Interspeech*, 2019, pp. 939–943.
[Interspeech 2019] – Poster – 🔗📄🎧

[C6] Venkataramani, S., **Tzinis, E.** and Smaragdis, P., "A Style Transfer Approach to Source Separation." In Proceedings of *IEEE Workshop on Applications of Signal Processing to Audio and Acoustics*, 2019, pp. 170–174.
[WASPAA 2019] – Poster – 🔗📄

[C5] Wang, Z., Subakan, Y. C., **Tzinis, E.**, Smaragdis, P., and Charlin, L., "Continual Learning of New Sound Classes Using Generative Replay." In Proceedings of *IEEE Workshop on Applications of Signal Processing to Audio and Acoustics*, 2019, pp. 308–312.
[WASPAA 2019] – Poster – 🔗📄

[C4] **Tzinis, E.**, Venkataramani, S. and Smaragdis, P., "Unsupervised Deep Clustering for Source Separation: Direct Learning from Mixtures using Spatial Information." In *Proceedings of International Conference of Acoustics, Speech and Signal Processing*, 2019, pp. 81–85.
[ICASSP 2019] – **Oral Presentation** – 🔗📄🎧📊

[C3] **Tzinis, E.** [†], Paraskevopoulos, G.[†], Baziotis, C., and Potamianos, A., "Integrating recurrence dynamics for speech emotion recognition." In Proceedings of *Interspeech*, 2018, pp. 927–931.
[Interspeech 2018] – **Oral Presentation** – 🔗📄🎧📊

[C2] **Tzinis, E.**, and Potamianos, A., "Segment-based speech emotion recognition using recurrent neural networks." In *Proceedings of Affective Computing and Intelligent Interaction*, 2017, pp. 190–195.
[ACII 2017] – **Oral Presentation** – 🔗📄📊

[C1] Chorianopoulou, A., **Tzinis, E.**, Iosif, E., Papoulidi, A., Papailiou, C. and Potamianos, A., "Engagement detection for children with Autism Spectrum Disorder." In Proceedings of *International Conference of Acoustics, Speech and Signal Processing*, 2017, pp. 5055–5059.
[ICASSP 2017] – **Oral Presentation** – 🔗📄

JOURNAL PUBLICATIONS	
	[J4] Wang, Z., Subakan C., Jian, X., Wu, J., **Tzinis, E.**, Ravanelli, M., and Smaragdis, P., "Learning representations for new sound classes with continual self-supervised learning." To appear in *IEEE Signal Processing Letters*, 2022. `[IEEE SPL 2022]` – **2021–2022 IF: 3.109** – 🔗 📄 🎧
	[J3] **Tzinis, E.**, Adi Y., Ithapu, V. K., Xu, B., Smaragdis, P., and Kumar, A., "RemixIT: Continual self-training of speech enhancement models via bootstrapped remixing." In *IEEE Journal on Selected Topics in Signal Processing*, vol. 16, no. 6, pp. 1329-1341, 2022. `[IEEE JSTSP 2022]` – **2021–2022 IF: 6.856, Nov 2022 IF: 15.7** – 🔗 📄 🎧 🎥
	[J2] **Tzinis, E.**, Wang, Z., Jiang, X., and Smaragdis, P., "Compute and memory efficient universal sound source separation." In *Journal of Signal Processing Systems*, vol. 9, no. 2, pp. 245–259, 2022. `[Springer JSPS 2022]` – **Jan 2022 IF: 2.7** – 🔗 📄 🎧
	[J1] Katsarou, M.-S.[†], Karathanasopoulou, A.[†], Andrianopoulou, A.[†], Desiniotis, V., **Tzinis, E.**, Lagiou, M., Charmandari, E., Chrousos, G.-P., Drakoulis, N., "Frequency Distribution of β_{1-}, β_{2-}, β_{3-} Adrenergic Receptors Genetic Variants in a Southeastern European Caucasian Population." In *Frontiers in Genetics*, vol. 9, p. 560, 2018. `[Frontiers Media SA: Genetics 2018]` – **2020–2021 IF: 4.274** – 🔗 📄 🎧

PATENTS	
	[P2] **Tzinis, E.**, Wisdom, S., Jansen, A., and Hershey, J. R., "Audio-Visual Separation of On-Screen Sounds Based on Machine Learning Models." *U.S. Patent US 11756570 B2.* 🔗 📄
	[P1] Wichern, G., **Tzinis, E.**, Subramanian, A., and Le Roux, J., "Method and System for Target Source Separation." *U.S. Patent Application 20230326478 A1.* 🔗 📄

SHORT-TALKS & ORAL PRESENTATIONS	
	[S13] ***Optimal condition training for target source separation*** — *Conference*, ICASSP, Rhodes, Greece, June 2023. 🎥 📊
	[S12] ***AudioScopeV2: Audio-Visual Attention Architectures for Calibrated Open-Domain On-Screen Sound Separation*** — *Conference*, ECCV, Tel-Aviv, Israel, October 2022. 🎥 📊
	[S11] ***Heterogeneous target speech separation*** — *Conference*, Interspeech, Incheon-Seoul, South Korea, September 2022. 🎥 📊
	[S10] ***RemixIT: Continual self-training with bootstrapped remixing for speech enhancement*** — *Conference*, ICASSP, Singapore, May 2022. 🎥 📊
	[S9] ***Unsupervised Federated Learning for Speech Enhancement*** — *Virtual Conference*, WASPAA, October 2021. 🎥 📊
	[S8] ***Into the Wild with AudioScope: Unsupervised Audio-Visual Separation of On-Screen Sounds*** — *Virtual Conference* ICLR, May 2021. 🎥 📊
	[S7] ***Unified Gradient Reweighting for Model Biasing with Applications to Source Separation*** — *Virtual Conference* ICASSP, June 2021. 🎥 📊
	[S6] ***Self-Supervised Audio-Visual Separation of In-the-wild On-Screen Sounds*** — *Virtual* NeurIPS SAS Workshop, Dec 2020. 🎥 — *Virtual* Google AI, Perception Spotlight, Nov 2020. 👁
	[S5] ***Sudo rm -rf: Efficient Networks for Universal Audio Source Separation*** — *Virtual Workshop* MLSP, Espoo, Finland, Sep 2020. 🎥 📊
	[S4] ***Two-Step Sound Source Separation: Training on Learned Latent Targets*** — *Virtual Conference* ICASSP, Barcelona, Spain, May 2020. 🎥 📊
	[S3] ***Improving Universal Sound Separation Using Sound Classification*** — *Virtual Conference* ICASSP, Barcelona, Spain, May 2020. 🎥 📊

[S2] *Unsupervised Deep Clustering for Source Separation:*
Direct Learning from Mixtures using Spatial Information
— *Conference* ICASSP, Brighton, UK, May 2019. 📊

[S1] *Manifold Learning and Nonlinear Recurrence Dynamics*
for Speech Emotion Recognition on Various Timescales
— *Thesis Defense* NTUA, Athens, Greece, June 2018. 📊

INVITED TALKS

[T4] *Unsupervised uni- and multi-modal sound separation*
— *Virtual*, Amazon Web Services (AWS) Audio group, Aug 2022. 📊
— *Virtual*, Apple Inc.'s DSP group, Aug 2022.
— *Virtual*, MERL, Aug 2022.

[T3] *Self-training & Supervision for Speech Enhancement*
— *Facebook AI*, Speech Meeting, August 2021.

[T2] *Improving On-Screen Sound Separation for Open Domain Videos*
with Audio-Visual Self-Attention
— *Virtual Workshop* Sight and Sound CVPR, June 2021. 🎥

[T1] *Compute and Memory Efficient Neural Networks for Audio Processing*
— *Virtual* Google AI, Sense Reading Group, Nov 2020. 🎥 📊

WORKSHOP
PUBLICATIONS
(NO PROCEEDINGS)

[W5] Leglaive, S., Borne, L., **Tzinis, E.**, Sadeghi, M., Fraticelli, M. , Wisdom, S., Pariente, M., Pressnitzer, D. and Hershey, J. "The CHiME-7 UDASE task: Unsupervised domain adaptation for conversational speech enhancement" In *Interspeech 7th International Workshop on Speech Processing in Everyday Environments* 2023.
[Interspeech 2023] – Oral Presentation – 🔗 📄 🔵

[W4] **Tzinis, E.**, Wisdom, S., and Hershey, J. R., "Don't Listen to What You Can't See: The Importance of Negative Examples for Audio-Visual On-Screen Sound Separation." In *ECCV Workshop for Visual Learning of Sounds in Spaces*, 2022.
[ECCV AV4D 2022] – Poster and Oral Presentation – 🔗 📄

[W3] **Tzinis, E.**, Wisdom, S., Remez, T., and Hershey, J. R., "Improving On-Screen Sound Separation for Open Domain Videos with Audio-Visual Self-Attention." In *CVPR Sight and Sound Workshop*, 2021.
[CVPR Workshop 2022] – Research Talk – 🔗 📄 🎥

[W2] **Tzinis, E.**, Wisdom, S., Jensen, A., Hershey, S., Remez, T., Ellis, D. P., and Hershey, J. R., "Self-Supervised Audio-Visual Separation of On-Screen Sounds from Unlabeled Video." In *NeurIPS Workshop for Self-Supervised Learning for Speech and Audio Processing*, 2020.
[NeurIPS SAS Workshop 2020] – Oral Presentation – 🔗 📄 🎥

[W1] Wisdom, S., **Tzinis, E.**, Erdogan, H., Weiss, R. J., Wilson, K., and Hershey, J. R., "Unsupervised Speech Separation Using Mixtures of Mixtures." In *In ICML Workshop on Self-supervision in Audio and Speech*, 2020.
[ICML Workshop 2020] – Oral Presentation – 🔗 📄 🎥

UNDER SUBMISSION
PAPERS &
PRE-PRINTS

[Z2] **Tzinis, E.**, "Bootstrapped Coordinate Search for Multidimensional Scaling." *arXiv preprint arXiv:1902.01482* 2019. 📄 🔵

[Z1] Paraskevopoulos, G. [†], **Tzinis, E.** [†], Vlatakis-Gkaragkounis, E.-V. and A. Potamianos, "Pattern search multidimensional scaling." Submitted to *Journal of Machine Learning Research (JMLR), IF: 2.450*, 2018. 📄 🔵

[†] The indicated authors contributed equally in each corresponding paper.

ACADEMIC SERVICE	**Area Chair**

− International Conference on Machine Learning (ICML) 2022 (declined)

Organizer

− CHiME 2023 - Task 2 UDASE 🔗
Unsupervised domain adaptation for conversational speech enhancement

Reviewer / Program Committee

✶ Conferences:
  − Annual Conference on Neural Information Processing Systems
    NeurIPS 2021 **(outstanding reviewer - top 8%)**, *2022, 2023*
  − International Conference of Acoustics, Speech and Signal Processing
    ICASSP 2021, 2022, 2023 **(outstanding reviewer - top 5%)**, *2024*
  − Annual Conference of the International Speech Communication Association
    Interspeech 2023
  − International Conference on Learning Representations
    ICLR 2022 **(highlighted reviewer - top 8.8%)**, *2023*
  − International Conference on Machine Learning
    ICML 2022 **(top reviewer - top 10%)**, *2023*
  − IEEE Workshop on Applications of Signal Processing to Audio and Acoustics
    WASPAA 2021, 2023

✶ Journals:
− American Institute of Physics (AIP), The Journal of the Acoustical Society of America (*JASA*)	2023–Present
− IEEE/ACM, Transactions on Audio, Speech and Language Processing (*IEEE/ACM TASLP*)	2020–Present
− IEEE, Signal Processing Letters (*IEEE SPL*)	2022–Present
− IEEE, Open Journal of Signal Processing	2023–Present
− Elsevier, Neurocomputing	2023–Present
− Elsevier, Neural Networks	2023–Present
− Elsevier, Applied Acoustics	2023–Present
− Elsevier, Engineering Applications of Artificial Intelligence	2023–Present
− Elsevier, Expert Systems with Applications	2023–Present
− Elsevier, Robotics and Autonomous Systems	2023–Present
− Oxford University Press, The Computer Journal	2022–Present
− Wiley, The Computational Intelligence	2023–Present

✶ Workshops:
  − Workshop on Speech Foundation Models and their Performance Benchmarks (ASRU 2023)
  − SASB 2023: Self-Supervision in Audio, Speech and Beyond (ICASSP 2023)
  − Self-supervised Learning for Speech and Audio Processing (AAAI 2022)
  − Detection and Classification of Acoustic Scenes and Events (DCASE 2021)

STUDENT MENTORING	**Dean Biskup** (MSc UIUC)	Summer 2021 - Summer 2022

− Federated learning for source separation

Xilin Jiang (BSc UIUC)   Fall 2020 - Summer 2022
− Vector-quantized audio source separation
− Efficient sound separation

Dimitrios Bralios (BSc/MEng NTUA - Visiting Student UIUC)   Fall 2020 - Summer 2021
− Model biasing with unified gradient reweighting

Zhongweiyang Xu (BSc UIUC)   Fall 2020
− Self-Supervised Audio Source Separation

Sacha Jungerman (BSc UIUC)   Fall 2019
– Graph-based Representations of Sounds

UNIVERSITY
SERVICE
APPOINTMENTS

Research Assistant at the UIUC

Generalizing federated learning to non-IID cases   Spring 2022
Self-supervision in separation   Fall 2021
Deploy low-cost sound separation models into-the-wild   Spring 2020
Exploring deep priors for blind source separation   Fall 2019
Deep mask inference for source separation   Spring 2019
Unsupervised source separation using deep clustering   Fall 2018

Teaching Assistant at the UIUC

CS 446 / ECE 449 Machine Learning   Spring 2021
CS 598 Machine Learning for Signal Processing   Fall 2020

Lab Assistant at the NTUA

Natural Language & Speech Processing   Fall 2017
Pattern Recognition   Fall 2017

Teaching Assistant at the NTUA

Signals & Systems   Fall 2017

OTHER
TEACHING
EXPERIENCE

Private Tutor, Athens, Greece   2013 - 2017

Maths, Physics, Programming and Circuits

– Preparation of high school students for national qualification exams
– Volunteer for social educational school of Athens (students in financial need)

Algorithms, C programming, Differential Analysis

– Giving lectures and tutoring undergraduate students for their exams

PROGRAMMING
SKILLS

Languages (Excellent):	Python, C, Unix Bash
Languages (Good):	C++, Matlab, and SQL
Languages (Familiar with):	Java, C#, ML and Assembly (80x86,AVR)
Operating Systems:	Linux, MacOS, Windows
Auto-differentiation Frameworks:	Pytorch, TensorFlow, Keras
Agile Development:	Git, JIRA, Jenkins, Scrum, Kanban Board

LANGUAGES   **Greek** (Native), **English** (Fluent)

AFFILIATIONS

IEEE - Member   2016 - Present
IEEE Signal Processing Society - Member   2017 - Present
Hellenic Student Association at the UIUC - President   2018 - 2019

OTHER
INTERESTS   Soccer, Beach rackets, Guitar, Singing, Traveling

REFERENCES AVAILABLE UPON REQUEST

Paris Smaragdis — Professor, University of Illinois Urbana-Champaign, USA 🎓

Shinji Watanabe — Associate Professor, Carnegie Mellon University, USA 🎓

Jon P. Baker — Professor, University of Sheffield, UK 🎓

Joan Serra — Head of Applied AI, Dolby, Spain 🎓

John R. Hershey — Sound Understanding Lead / Snr Staff Research Scientist, Google, USA 🎓

Jonathan Le Roux — Snr Team Leader / Distinguished Research Scientist, MERL, USA 🎓

Last updated on December 21, 2023