# Efthymios Tzinis

CONTACT Information Primary-Email: etzinis@gmail.com

University-Email: etzinis2@illinois.edu

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 (Expected)

PhD Candidate in Computer Science (CS)

- Area: Artificial Intelligence
- GPA: 4.00/4.00
- Dissertation: Unsupervised sound separation
- 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 [2]
- 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

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
- Seamless audio source separation
- Managers: Drs. Jonathan Le Roux 📚, 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)

 $\mathrm{May}\ 2020$ -  $\mathrm{May}\ 2021$ 

# 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)

_	${\bf Financial}$	data	analysis	and	risk	prediction

- Supervisor: Evangelos Kaslis in

Honors & Awards	Google's PhD Fellowship (\$ 75,000 per academic year) 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) Awarded to the top 10% of the reviewers				
	UIUC's C.L. and Jane Liu Award (\$ 3,000) Awarded annually to one PhD student showing exceptional research promise	2022			
	ICLR Highlighted Reviewer Awarded to the top 8.8% of the reviewers (492/5589)	2022			
	NeurIPS Outstanding Reviewer Award Awarded to the top 8% of the reviewers	2021			
	Google's PhD Fellowship Nominee Nominated to represent the UIUC to the worldwide competition	2021			
	Google on the Spot Bonus (\$ 1,500) 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.	2021			
	Facebook's PhD Fellowship Finalist Top 3.5% of submitted applications globally	2021			
	Apple's Scholars in AI/ML PhD Fellowship Nominee Nominated to represent the UIUC to the national competition	2020			
	UIUC's Computer Science Excellence Fellowship (\$ 6,740) Awarded to recruit and support promising incoming CS graduate students	2018			
	HiPEAC Student Challenge Certificate with NTUA's team, Zagreb, Croatia GPU parallelization of K-means algorithm using sparse matrix operations	2017			
	Joint 1st place in EESTech Machine Learning Challenge, Athens, Greece Solving supervised classification problems (participation: 40 teams)	2017			
	Participation & Distinction Programming contests: Code Jam, Hash Code, Codechef, IEEE Xtreme (top 5%)	2015-2017			
	Paris Kanellakis Fellowship for NTUA-ECE (\$ 2,336) Highest GPA in the computer science specialization between 5th-8th semesters	2014-2016			
	"The Great Moment of Education" Eurobank EFG Scholarship (\$ 1,168) Highest rank in national qualifying exams in my school (Score: 19,713/20,000)	2012			
	Award from Cultural Society of Santorini Achieved the 7th highest entering score in NTUA, ECE department	2012			
	Distinction Maths & Physics competitions for students from all Greek high schools	2011			
Conference Publications	[C22] Tzinis, E., Wichern G., Smaragdis, P., and Le Roux, J., "Optimal Condition Target Source Separation." Submitted to International Conference of Acoustics, Signal Processing (ICASSP), 2023 (to appear).  [ICASSP 2023] - 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] - Presentation -				

- [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 Lill ...
- [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 Speech and Signal Processing (100 pp. 100 pp. 100
- [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 % []

- [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 %

- [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 Translation Tr
- [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 % [Acid 2017] Oral Presentation % [Acid 2017] [Aci
- [C1] Chorianopoulou, A., <u>Tzinis</u>, 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., <u>Tzinis</u>, 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] <u>Tzinis, E.</u>, 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.<sup>†</sup>, Karathanasopoulou, A.<sup>†</sup>, Andrianopoulou, A.<sup>†</sup>, Desiniotis, V., **Tzinis, E.**, Lagiou, M., Charmandari, E., Chrousos, G.-P., Drakoulis, N., "Frequency Distribution of  $\beta_{1-}$ ,  $\beta_{2-}$ ,  $\beta_{3-}$  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

[P1] 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 Application Number 17/214186 20220310113 A1.

SHORT-TALKS	&
Oral	
Presentation	IS

- [S12] AudioScope V2: Audio-Visual Attention Architectures for Calibrated Open-Domain On-Screen Sound Separation
  - Conference, ECCV, Tel-Aviv, Israel, October 2022. Mull
- [S11] Heterogeneous target speech separation - Conference, Interspeech, Incheon-Seoul, South Korea, September 2022. ■ Ш
- [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. **M**
- [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. **M**
- [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. **W** 📶
- [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)

- [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] <u>Tzinis, E.</u>, "Bootstrapped Coordinate Search for Multidimensional Scaling." arXiv preprint arXiv:1902.01482 2019.
- [Z1] Paraskevopoulos, G. <sup>†</sup>, **Tzinis, E.** <sup>†</sup>, Vlatakis-Gkaragkounis, E.-V. and A. Potamianos, "Pattern search multidimensional scaling." Submitted to *Journal of Machine Learning Research* (*JMLR*), *IF: 2.450*, 2018.

# ACADEMIC SERVICE

#### Area Chair

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

#### **Organizer**

- CHiME 2023 - Task 2: Unsupervised Adaptation for Speech Enhancement

# Reviewer / Program Committee

- \* Conferences:
  - Annual Conference on Neural Information Processing Systems NeurIPS 2021 (outstanding reviewer - top 8%), 2022
  - International Conference on Learning Representations
     ICLR 2022 (highlighted reviewer top 8.8%)
  - International Conference of Acoustics, Speech and Signal Processing ICASSP 2021, 2022, 2023
  - International Conference on Machine Learning ICML 2022 (top reviewer - top 10%), 2023
  - IEEE Workshop on Applications of Signal Processing to Audio and Acoustics  $\it WASPAA~2021$

<sup>&</sup>lt;sup>†</sup> The indicated authors contributed equally in each corresponding paper.

NIVERSITY   SERVICE   Generalizing federated learning to non-HID cases   Spring 2022   Self-supervision in separation   Pall 2021   Pall		<ul> <li>IEEE/ACM, Transactions on Audio, Speech and Language Processing Letters (IEEE SPL)</li> <li>IEEE, Signal Processing Letters (IEEE SPL)</li> <li>Elsevier, Neurocomputing</li> <li>Oxford University Press, The Computer Journal</li> <li>Wiley, The Computational Intelligence</li> <li>* Workshops:</li> <li>Workshop on Self-supervised Learning for Speech and Audio Intelligence</li> <li>Workshop on Detection and Classification of Acoustic Scenes DCASE 2021</li> </ul>	2020-Present 2022-Present 2023-Present 2022-Present 2023-Present Processing				
APPOINTMENTS  Self-supervision in separation models into-the-wild Spring 2020 Exploring deep priors for blind source separation Spring 2020 Exploring deep priors for blind source separation Spring 2020 Exploring deep priors for blind source separation Spring 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 CS 598 Machine Learning for Signal Processing Fall 2017  Eab Assistant at the NTUA  Natural Language & Speech Processing Fall 2017 Pattern Recognition Fall 2017  Teaching Assistant at the NTUA  Signals & Systems Fall 2017  Teaching Assistant at the NTUA  Signals & Systems Fall 2017  TEACHING EXPERIENCE  Algorithms, C programming and Circuits  Preparation of high school students for national qualification exams Proposition Fall 2017  Algorithms, C programming, Differential Analysis Giving lectures and tutoring undergraduate students for their exams  STUDENT MENTORING MENTORING  EXPERIENCE  Algorithms, C programming, Differential Analysis Giving lectures and tutoring undergraduate students for their exams  STUDENT MENTORING EXPERIENCE  Bean Biskup (MSc UIUC)  Can Biskup (MSc UIUC)  Efficient Audio Source Separation  Vilin Jiang (BSc UIUC)  Efficient Audio Source Separation  Unsupervised domain adaptation for source separation  Dimitrios Brailos (BSc/MEng NTUA - Visiting Student UIUC)  Efficient Audio Source Separation  Linutrios Brailos (BSc/MEng NTUA - Visiting Student UIUC)  Fall 2020 - Summer 2021  Fall 2020  Fall 2020 - Self-Supervised Audio Source Separation  Tomograming (BSc UIUCC)  Fall 2020 - Self-Supervised Audio Source Separation  Fall 2020 - Self-Supe	University	Research Assistant at the UIUC					
CS 446 / ECE 449 Machine Learning CS 598 Machine Learning for Signal Processing  Lab Assistant at the NTUA  Natural Language & Speech Processing Fall 2017 Pattern Recognition  Teaching Assistant at the NTUA  Signals & Systems  Fall 2017  Pattern Recognition  Teaching Assistant at the NTUA  Signals & Systems  Fall 2017  OTHER 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  STUDENT  MENTORING  Dean Biskup (MSc UIUC)  Summer 2021 - Summer 2022  Fall 2020 - Summer 2022  Efficient Audio Source Separation  Unsupervised domain adaptation for source separation  Dimitrios Bralios (BSc/MEng NTUA - Visiting Student UIUC)  - Model Biasing with Unified Gradient Reweighting  Zhongweiyang Xu (BSc UIUC)  - Self-Supervised Audio Source Separation  Sacha Jungerman (BSc UIUC)  Fall 2020  Fall 2020  Fall 2020  Fall 2020		Self-supervision in separation Deploy low-cost sound separation models into-the-wild Exploring deep priors for blind source separation Deep mask inference for source separation	Fall 2021 Spring 2020 Fall 2019 Spring 2019				
CS 598 Machine Learning for Signal Processing  Lab Assistant at the NTUA  Natural Language & Speech Processing Pattern Recognition  Teaching Assistant at the NTUA  Signals & Systems Fall 2017  Pattern Recognition  Fall 2017  Teaching Assistant at the NTUA  Signals & Systems Fall 2017  OTHER TEACHING EXPERIENCE  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  STUDENT MENTORING  Dean Biskup (MSc UIUC) Summer 2021 - Summer 2022  Federated learning for source separation Xilin Jiang (BSc UIUC) Efficient Audio Source Separation Unsupervised domain adaptation for source separation Dimitrios Bralios (BSc/MEng NTUA - Visiting Student UIUC) Summer 2021 - Summer 2021  Model Biasing with Unified Gradient Reweighting Zhongweiyang Xu (BSc UIUC) Sacha Jungerman (BSc UIUC) Fall 2020 - Summer 2021  Fall 2020		Teaching Assistant at the UIUC					
Natural Language & Speech Processing Pattern Recognition  Teaching Assistant at the NTUA Signals & Systems  Private Tutor, Athens, Greece  Private Tutor, Athens, Greece  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  STUDENT MENTORING  Dean Biskup (MSc UIUC) - Federated learning for source separation Xilin Jiang (BSc UIUC) - Efficient Audio Source Separation - Unsupervised domain adaptation for source separation Dimitrios Brallos (BSc/MEng NTUA - Visiting Student UIUC) - Model Biasing with Unified Gradient Reweighting Zhongweiyang Xu (BSc UIUC) - Self-Supervised Audio Source Separation Sacha Jungerman (BSc UIUC) - Fall 2020 - Summer 2021 - Fall 2020 - Fall		,					
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Signals & Systems  Private Tutor, Athens, Greece  EXPERIENCE  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  STUDENT  MENTORING  Dean Biskup (MSc UIUC)  Federated learning for source separation  Xilin Jiang (BSc UIUC)  Efficient Audio Source Separation  Unsupervised domain adaptation for source separation  Dimitrios Bralios (BSc/MEng NTUA - Visiting Student UIUC)  Model Biasing with Unified Gradient Reweighting  Zhongweiyang Xu (BSc UIUC)  Summer 2021  Fall 2020 - Summer 2021  Fall 2020  Fall 2020  Fall 2020  Fall 2020  Fall 2020							
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EXPERIENCE  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  STUDENT  Dean Biskup (MSc UIUC)  Federated learning for source separation  Xilin Jiang (BSc UIUC)  Efficient Audio Source Separation - Unsupervised domain adaptation for source separation  Dimitrios Bralios (BSc/MEng NTUA - Visiting Student UIUC)  Model Biasing with Unified Gradient Reweighting  Zhongweiyang Xu (BSc UIUC)  Sacha Jungerman (BSc UIUC)  Fall 2020  Fall 2020  Fall 2020		Private Tutor, Athens, Greece	2013 - 2017				
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STUDENT MENTORING  Dean Biskup (MSc UIUC) - Federated learning for source separation Xilin Jiang (BSc UIUC) - Efficient Audio Source Separation - Unsupervised domain adaptation for source separation Dimitrios Bralios (BSc/MEng NTUA - Visiting Student UIUC) - Model Biasing with Unified Gradient Reweighting Zhongweiyang Xu (BSc UIUC) - Self-Supervised Audio Source Separation Sacha Jungerman (BSc UIUC) - Fall 2019	EM BRIENOE						
STUDENT MENTORING  Dean Biskup (MSc UIUC)  Federated learning for source separation  Xilin Jiang (BSc UIUC)  Efficient Audio Source Separation  Unsupervised domain adaptation for source separation  Dimitrios Bralios (BSc/MEng NTUA - Visiting Student UIUC)  Model Biasing with Unified Gradient Reweighting  Zhongweiyang Xu (BSc UIUC)  Self-Supervised Audio Source Separation  Sacha Jungerman (BSc UIUC)  Fall 2020 - Summer 2021  Fall 2020  Fall 2020  Fall 2020  Fall 2020		Algorithms, C programming, Differential Analysis					
MENTORING - Federated learning for source separation  Xilin Jiang (BSc UIUC) Fall 2020 - Summer 2022  - Efficient Audio Source Separation - Unsupervised domain adaptation for source 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		- Giving lectures and tutoring undergraduate students for their	exams				
Xilin Jiang (BSc UIUC)  - Efficient Audio Source Separation  - Unsupervised domain adaptation for source separation  Dimitrios Bralios (BSc/MEng NTUA - Visiting Student UIUC)  - Model Biasing with Unified Gradient Reweighting  Zhongweiyang Xu (BSc UIUC)  - Self-Supervised Audio Source Separation  Sacha Jungerman (BSc UIUC)  Fall 2020 - Summer 2021  Fall 2020 - Summer 2021  Fall 2020 - Fall 2020  Fall 2020		_ ,	Summer 2021 - Summer 2022				
Dimitrios Bralios (BSc/MEng NTUA - Visiting Student UIUC)  - Model Biasing with Unified Gradient Reweighting  Zhongweiyang Xu (BSc UIUC)  - Self-Supervised Audio Source Separation  Sacha Jungerman (BSc UIUC)  Fall 2020 - Summer 2021  Fall 2020 - Fall 2020  Fall 2020		Xilin Jiang (BSc UIUC)  – Efficient Audio Source Separation	Fall 2020 - Summer 2022				
Zhongweiyang Xu (BSc UIUC) Fall 2020  — Self-Supervised Audio Source Separation  Sacha Jungerman (BSc UIUC) Fall 2019		Dimitrios Bralios (BSc/MEng NTUA - Visiting Student UIUC)	Fall 2020 - Summer 2021				
Sacha Jungerman (BSc UIUC) Fall 2019			Fall 2020				
		Sacha Jungerman (BSc UIUC)	Fall 2019				

 $\bigstar$  Journals:

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

IEEE - Member2016 - PresentIEEE Signal Processing Society - Member2017 - Present

Hellenic Student Association at the UIUC - President

OTHER

Soccer, Beach rackets, Guitar, Singing, Traveling

Interests

REFERENCES Paris Smaragdis
AVAILABLE John R. Hershey
UPON REQUEST Scott Wisdom
Longthan Le Roux

Jonathan Le Roux Gordon Wichern

Alexandros Potamianos

Tal Remez

Professor, UIUC

2018 - 2019

Research Scientist, Google

Research Scientist, Google 🎓

Senior Team Leader, MERL

Senior Principal Research Scientist, MERL

Associate Professor, NTUA 🎓

Research Scientist, Meta AI Research

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