

EFTHYMIOS (THEMIS) TSAPRAZLIS

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RESEARCH INTERESTS

Privacy-Preserving ML, Vision-Language, Generative AI, Computer Vision, Natural Language Processing

EDUCATION

University of Southern California Aug 2024 - present
PhD in Computer Science, advised by Prof. [Shrikanth Narayanan](#) *Los Angeles CA, USA*

National Technical University of Athens Sep 2018 - July 2024
BSc and MEng in Electrical and Computer Engineering *Athens, Greece*
Thesis: *Enhancing contrastive language-vision pre-training with generative dialogue*, supervised by Prof. [Petros Maragos](#)

RESEARCH EXPERIENCE

Signal Analysis and Interpretation Lab, USC Aug 2024 - present
Graduate Research Assistant *Los Angeles CA, USA*
Performing research on computer vision and privacy-preserving machine learning.

University of Texas at Austin Nov 2022 - Aug 2024
Research Student *Austin TX, USA*
Performed research on contrastive learning for vision-language pretraining advised by Prof. [Alex Dimakis](#).

Computer Vision and Signal Processing Group, NTUA
Robot Perception and Interaction Unit, Athena RC Jan 2024 - July 2024
Research Assistant *Athens, Greece*
Performed research on lifelong learning for robotic agents as part of the PILLAR-Robots project.

National Technical University of Athens Nov 2022 - July 2024
Undergraduate Research Assistant *Athens, Greece*
Performed research on self-supervision and contrastive learning.

NCSR "DEMOKRITOS" Sep 2022 - Nov 2022
Research Intern *Athens, Greece*
Developed an end-to-end framework for multimodal sentiment analysis.

PROFESSIONAL EXPERIENCE

Workable Software Oct 2023 - Dec 2023
Machine Learning Engineer Intern *Athens, Greece*
Performed research on visual information extraction on documents such as resumes.

TALKS

- 4th Annual Symposium of USC-Amazon Center**
Talk: *Assessing Visual Privacy with VLMs*
May 2025, Los Angeles, CA

RESEARCH PROJECTS

Alignment in Multimodal AI through Explainable Privacy Understanding

USC - Amazon

(Sep 2024 - present)

- Received a gift award from the [USC-Amazon Center on Secure and Trusted Machine Learning](#).
- Developed a taxonomy of visual privacy risks grounded in legal frameworks.
- Evaluated VLMs on privacy recognition and compositional reasoning.
- Designing deployable VLM-as-a-judge models for privacy severity assessment, along with a dataset of compositional privacy risks.
- Building a privacy advisory agent to detect, localize, and sanitize sensitive visual content for regulatory compliance.

IARPA HIATUS – SADIRI: Stylometric Authorship Discernment and Interpretation for Realistic Inputs

USC ISI - UMD - UMich - UBirmingham

(Aug 2025 - present)

- Leading research efforts on authorship privacy within a multi-institution IARPA program.
- Formalized evaluation protocols for user and attribute privacy leakage in speech.
- Developing a dataset and benchmark for authorship attribution from spoken language.
- Designing methods for speaker anonymization across both acoustic and linguistic modalities.

Horizon Europe – PILLAR-Robots: Purposeful Intrinsically motivated Lifelong Learning Autonomous Robots

Athena RC - UDCoruna - CNR - Sorbonne - AI2Life - PAL Robotics (Jan 2024 - Jul 2024)

- Developed robotic simulation pipelines
- Enabled the robot to learn useful environmental information under minimal interaction during the exploration phase.
- Investigated domain adaptation techniques to transfer learned behaviors from simulation to real-world robotic settings.

Enhancing Vision-Language Pre-training

NTUA - UT Austin

(Nov 2022 - Jul 2024)

- Proposed a multimodal extension of contrastive vision–language models by incorporating dialogue as an additional modality.
- Generated synthetic dialogue data to augment image–text datasets with richer contextual descriptions.
- Developed a domain adaptation method to adapt models to dialogue inputs via a dual contrastive objective while preserving generalization.

AWARDS

1. **USC GSG Travel Award, 2026**
Travel award towards attending IEEE ICASSP 2026
2. **Gerondelis Foundation Scholarship, 2025**
PhD scholarship for Greek students pursuing graduate studies in the U.S.
3. **USC–Amazon Center on Secure and Trusted Machine Learning Gift Award, 2025.**
Competitive seed grant supporting research on privacy-preserving and trustworthy AI.
4. **Thomaidis Award for Scientific Publications, 2025**
Recognized for outstanding research publications in 2023 during undergraduate studies.
5. **ARISE Stipend Award, 2021**
Full tuition coverage for participation in the EIT Digital Summer School 2021.

PUBLICATIONS

- **Efthymios Tsaprazlis**, Tiantian Feng, Anil Ramakrishna, Sai Praneeth Karimireddy, Rahul Gupta, Shrikanth Narayanan. Rethinking Visual Privacy: A Compositional Privacy Risk Framework or Severity Assessment with VLMs *arXiv preprint [arXiv:2603.21573](https://arxiv.org/abs/2603.21573)*, 2026
- **Efthymios Tsaprazlis**, Tiantian Feng, Anil Ramakrishna, Rahul Gupta, Shrikanth Narayanan. Assessing Visual Privacy Risks in Multimodal AI: A Novel Taxonomy-Grounded Evaluation of Vision-Language Models. *IEEE/CVF CVPR Workshop: Safe Artificial Intelligence for All Domains*, 2026.
- **Efthymios Tsaprazlis**, Thanathai Lertpetchpun, Tiantian Feng, Sai Praneeth Karimireddy, Shrikanth Narayanan. VoxGuard: Evaluating User and Attribute Privacy in Speech via Membership Inference Attacks. *IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP)*, 2026.
- Panagiotis P Filntisis, **Efthymios Tsaprazlis**, Paraskevas Oikonomou, Francesco Mattioli, Vieri Giuliano Santucci, George Retsinas, and Petros Maragos. Towards Open-ended Robotic Exploration using Vision-Inspired Similarity and Foundation Models. *IEEE International Conference on Robotics and Automation (ICRA), Atlanta, USA*, 2025.
- **Efthymios Tsaprazlis**, Georgios Smyrnis, Alex Dimakis, and Petros Maragos. Enhancing CLIP with a Third Modality. *In NeurIPS 2023 Workshop: Self-Supervised Learning - Theory and Practice*, 2023.

SUMMER SCHOOLS

- Lisbon Machine Learning School (LxMLS) 2022** Jul 2022
Instituto Superior Technico (IST) *Lisbon, Portugal*
Topics: *Probability Theory & Linear Algebra, Linear Classifiers, Neural Networks, Sequence Models, Neural Structured Models, Causality.*
- EIT Digital Platforms for Industry 4.0** Jul 2021 - Aug 2021
Technical University of Munich *Munich, Germany*
Developed a video surveillance framework for industrial environments monitoring with computer vision.

SKILLS

Programming Languages	Python , MATLAB /SIMULINK, C/C++, SQL
Tools	PyTorch , Bash, Jupyter, Gazebo, Opacus, Git, TensorFlow
Languages	English(Fluent), Greek(Native)

VOLUNTEERING

IEEE ICASSP 2023 Student Volunteer: Served as a student volunteer in the IEEE 48th International Conference on Acoustics, Speech, and Signal Processing (ICASSP), Rhodes (2023).