



Stefanos Gkikas

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📍 Currently living in Heraklion, Greece

Stefanos is a Ph.D. candidate focusing on Affective Computing and Emotion AI. His doctoral research specifically addresses automatic pain assessment using multimodal data sources. He is interested in emotion recognition and human behavior analysis, employing advanced deep-learning methods for video data and biosignals.

EDUCATION

Doctoral Studies <i>Major focus: Affective Computing</i>	2021 – 2025
Hellenic Mediterranean University, Department of Electrical & Computer Engineering	Heraklion, Greece
<i>Dissertation: A Pain Assessment Framework based on multimodal data and Deep Machine Learning methods</i>	
Master of Science (joint MSc) <i>Major focus: Computer Vision</i>	2019 – 2020
Université de Bourgogne	Le Creusot, France
<i>Thesis: Image Quality Estimation: Fundus quality assessment for overall image quality, artifacts, clarity and field definition</i>	
Master of Science (joint MSc) <i>Major focus: Machine Learning</i>	2018 – 2019
Hellenic Mediterranean University, Department of Electrical & Computer Engineering	Heraklion, Greece
Bachelor of Science <i>Major focus: Image Processing</i>	2013 – 2018
Technological Educational Institute of Crete, Department of Informatics Engineering	Heraklion, Greece
<i>Thesis: Person Identification with image and voice</i>	

PEER-REVIEW PUBLICATIONS

- 2025 [Gkikas. S.](#), Fernandez Rojas R., Tsiknakis. M., “PainFormer: a Vision Foundation Model for Automatic Pain Assessment,” in IEEE Transactions on Affective Computing. **Under review – Request preprint**
- 2024 [Gkikas. S.](#), Tsiknakis. M., “Twins-PainViT: Towards a Modality-Agnostic Vision Transformer Framework for Multimodal Automatic Pain Assessment using Facial Videos and fNIRS,” in 12th International Conference on Affective Computing and Intelligent Interaction (ACII), Glasgow, UK. **Accepted – Pending Publication**, [arXiv](#)
- 2024 [Gkikas. S.](#), Tsiknakis. M., “Synthetic Thermal and RGB Videos for Automatic Pain Assessment utilizing a Vision-MLP Architecture,” in 12th International Conference on Affective Computing and Intelligent Interaction (ACII), Glasgow, UK. **Accepted – Pending Publication**, [arXiv](#)
- 2024 [Gkikas. S.](#), Tachos N. S., Andreadis S., Pezoulas V. C., Zaridis D., Gkois G., Matonaki A., Stavropoulos T. G., Fotiadis D. I., “Multimodal automatic assessment of acute pain through facial videos and heart rate signals utilizing transformer-based architectures,” in Frontiers in Pain Research. [10.3389/fpain.2024.1372814](https://doi.org/10.3389/fpain.2024.1372814)
- 2023 [Gkikas. S.](#), Tsiknakis. M., “A Full Transformer-based Framework for Automatic Pain Estimation using Videos,” in 45th Annual International Conference of the IEEE Engineering in Medicine & Biology Society (EMBC), Sydney, Australia. [10.1109/EMBC40787.2023.10340872](https://doi.org/10.1109/EMBC40787.2023.10340872)
- 2023 [Gkikas. S.](#), Chatzaki. C., Tsiknakis. M., “Multi-task Neural Networks for Pain Intensity Estimation Using Electrocardiogram and Demographic Factors,” in Information and Communication Technologies for Ageing Well and e-Health, ICT4AWE 2021-2022, Communications in Computer and Information Science. [10.1007/978-3-031-37496-8_17](https://doi.org/10.1007/978-3-031-37496-8_17)

- 2023 Gkikas. S., Tsiknakis. M., "Automatic assessment of pain based on deep learning methods: A systematic review," in Computer Methods and Programs in Biomedicine. [10.1016/J.CMPB.2023.107365](https://doi.org/10.1016/J.CMPB.2023.107365)
- 2022 Gkikas. S., Chatzaki. C., Pavlidou. E., Verigou. F., Kalkanis. K., Tsiknakis. M., "Automatic Pain Intensity Estimation based on Electrocardiogram and Demographic Factors," in 8th International Conference on Information and Communication Technologies for Ageing Well and E-Health. [10.5220/0010971700003188](https://doi.org/10.5220/0010971700003188)

REVIEWER FOR PEER-REVIEW JOURNALS

1. Sun. J., Portilla. J., Otero. A., "A Deep Learning Approach for Fear Recognition on the Edge based on Two-dimensional Feature Maps," in IEEE Journal of Biomedical and Health Informatics. [10.1109/JBHI.2024.3392373](https://doi.org/10.1109/JBHI.2024.3392373)
2. Huh. J., Park. S., Lee. J. E., Ye J. C., "Improving Medical Speech-to-Text Accuracy using Vision-Language Pre-training Models," in IEEE Journal of Biomedical and Health Informatics. [10.1109/JBHI.2023.3345897](https://doi.org/10.1109/JBHI.2023.3345897)
3. Chen. X., Ma. W., Gao. W., Fan. W., "BAFNet: Bottleneck Attention Based Fusion Network for Sleep Apnea Detection," in IEEE Journal of Biomedical and Health Informatics. [10.1109/JBHI.2023.3278657](https://doi.org/10.1109/JBHI.2023.3278657)

EXPERIENCE

- Research Engineer | (Fixed-term employment contract)** April – December 2023
Biomedical Research Institute, FORTH Ioannina, Greece
- Role: developing state-of-the-art AI methods for the AI4PA project, "A novel AI-empowered patient monitoring system for patients with Psoriatic Arthritis," funded by Pfizer [Link](#)
- Research Engineer | (Scholarship-PhD)** 2022 – 2023
Computational BioMedicine Laboratory, Institute of Computer Science, FORTH Heraklion, Greece
- Role: developing state-of-the-art methods for automatic pain assessment applied to videos and biological signals, i.e., ECG, EMG, and EDA
- Research Engineer | (Scholarship-PhD)** 2021 – 2022
Hellenic Mediterranean University, Biomedical Informatics & eHealth Laboratory Heraklion, Greece
- Role: (1) developing affective computing-based algorithms
(2) technical advisor to BSc and MSc students to accomplish their thesis
- Research Engineer | (Internship-MSc)** Spring 2020
Université de Bourgogne, Imagerie et Vision Artificielle Laboratoire (ImViA) Le Creusot, France
- Role: developing generative adversarial neural networks (GANs) to generate additional synthetic samples to enhance the fundus (eye) quality assessment pipeline
- Research Engineer | (Internship-BSc)** Spring 2018
Technological Educational Institute of Crete, Biomedical Informatics & eHealth Laboratory Heraklion, Greece
- Role: developing classical image and signal processing algorithms to establish a person-identification system

TEACHING

- Teaching assistant in Advanced Topics in Biomedical Informatics | (MSc course)** 2021 – Today
Hellenic Mediterranean University, Biomedical Informatics & eHealth Laboratory Heraklion, Greece
- Role: introducing fundamental concepts of machine learning techniques as applied to biomedical data
- Teaching assistant in Neural Networks | (BSc course)** Spring 2019
Hellenic Mediterranean University, Intelligent Systems Laboratory Heraklion, Greece
- Role: developing the laboratory notes of the course
- Teaching assistant in Pattern Recognition | (BSc course)** Fall 2018
Hellenic Mediterranean University, Intelligent Systems Laboratory Heraklion, Greece
- Role: developing the laboratory notes of the course

SEMINARS & WORKSHOPS

Introduction to Clinical Psychopathology, Seminar (60h)

2022

Hellenic Open University

Patras, Greece

Deep Learning for Medical Imaging, Summer School

2022

École de technologie supérieure

Montreal, Canada

COMPETENCES

Languages: Greek (Native), English (London Tests of English - Edexcel Level 3 - B2)

Programming: Python (NumPy, Matplotlib, Pandas, sklearn), MATLAB

Deep Learning Frameworks: PyTorch (primary), TensorFlow & Keras (familiar)

Operating System: Linux, macOS, Windows

Document Creation: $\LaTeX$, Microsoft Office Suite

Content Creation: Adobe Creative Suite, Sketch, Lunacy

Diving License: B