

Katerina Papadimitriou

Department of Electrical and Computer Engineering, University of Thessaly
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Research	Computer vision, machine learning, human-computer interaction, image analysis and processing, signal processing, pattern recognition, medical imaging and statistical tomographic reconstruction. Particular emphasis on automatic sign language recognition, incorporating deep learning methods for unsupervised sequence learning.	
Education	Ph.D. Department of Electrical and Computer Engineering ECE , University of Thessaly, Volos, Greece. Advisor: Prof. Gerasimos Potamianos . Dissertation title: Automatic Sign Language Recognition Algorithms and their Incorporation into a Greek Sign Language Educational Platform.	2016-2023
	M.Sc. Department of Computer Science and Engineering DCSE , University of Ioannina, Ioannina, Greece. Advisor: Prof. Christophoros Nikou . Thesis: Tomographic image reconstruction with spatially varying mixture models.	2013-2015
	B.Sc. Department of Computer Science DCS , University of Ioannina, Ioannina, Greece.	2011
Experience	Research Assistant SL-ReDu project (H.F.R.I.). Development of innovative computer vision and machine learning algorithms for video-based automatic sign language recognition. Collection of a multi-signer RGB and depth frame database of greek sign language. Human-computer interface design for the GSL education use-case.	2020 - 2023
	Laboratory Teaching Assistant Design and Analysis of Algorithms. Department of Computer Science and Engineering, University of Ioannina, Greece.	2013 - 2015
	Web Developer Front-end and back-end web development. Impel, Ioannina, Greece.	2011 - 2013
Journal publications	<ol style="list-style-type: none">1. K. Papadimitriou, G. Potamianos, G. Sapountzaki, T. Goulas, E. Efthimiou, S.-E. Fotinea, and P. Maragos, "Greek sign language recognition for an education platform," <i>Universal Access in the Information Society (Springer)</i>, pp. 1–18, 2023.2. S. Chatzivasili, K. Papadimitriou, and V. Kanakoudis, "Optimizing the Formation of DMAs in a Water Distribution Network through Advanced Modelling," <i>Water</i>, vol. 11, 2019.3. K. Papadimitriou, G. Sfikas, and C. Nikou, "Tomographic Image Reconstruction with a Spatially Varying Gamma Mixture Prior," <i>Mathematical Imaging and Vision</i>, vol. 60, pp. 1355–1365, 2018.	

**Conference
publications**

1. **K. Papadimitriou** and G. Potamianos, "Multimodal locally enhanced Transformer for continuous sign language recognition," In *Proc. of the INTER-SPEECH*, pp. 1513–1517, Dublin, Ireland, 2023.
2. G. Sapountzaki, E. Efthimiou, S.-E. Fotinea, **K. Papadimitriou**, and G. Potamianos, "Remote learning and assessment of Greek sign language in the undergraduate curriculum in COVID time," In *Proc. of the International Conference on Education and New Learning Technologies (EDULEARN)*, pp. 5452–5459, Palma, Spain, 2023.
3. **K. Papadimitriou**, G. Sapountzaki, K. Vasilaki, E. Efthimiou, S.-E. Fotinea, and G. Potamianos, "SL-REDU GSL: A large Greek sign language recognition corpus," In *Proc. of the IEEE International Conference on Acoustics, Speech, and Signal Processing Workshops (ICASSPW)*, pp. 1–5, Rhodes island, Greece, 2023.
4. **K. Papadimitriou** and G. Potamianos, "Sign language recognition via deformable 3D convolutions and modulated graph convolutional networks," In *Proc. of the IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP)*, pp. 1–5, Rhodes island, Greece, 2023.
5. G. Sapountzaki, E. Efthimiou, S. E. Fotinea, **K. Papadimitriou**, and G. Potamianos, "3D Greek Sign Language Classifiers as a Learning Object in the SL-ReDu Online Education Platform," In *Proc. International Conference on Education and New Learning Technologies (EDULEARN)*, pp. 6146-6153, Palma, Spain, 2022.
6. **K. Papadimitriou**, G. Potamianos, G. Sapountzaki, T. Goulas, E. Efthimiou, S.-E. Fotinea, and P. Maragos, "Greek Sign Language Recognition for the SL-ReDu Learning Platform," In *Proc. Language Resources and Evaluation Conference Workshop on Sign Language Translation and Avatar Technology (LREC-SLTAT)*, pp. 79-84, Marseille, France, 2022.
7. M. Parelli, **K. Papadimitriou**, G. Potamianos, G. Pavlakos, and P. Maragos, "Spatio-Temporal Graph Convolutional Networks for Continuous Sign Language Recognition," In *Proc. IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP)*, pp. 8457-8461, Singapore, 2022.
8. E. Efthimiou, S. E. Fotinea, C. Flouda, T. Goulas, G. Ametoglou, G. Sapountzaki, **K. Papadimitriou**, and G. Potamianos, "The SL-ReDu Environment for Self-monitoring and Objective Learner Assessment in Greek Sign Language," In *Proc. Universal Access in Human-Computer Interaction. Access to Media, Learning and Assistive Environments (HCII)*, pp. 72-81, Washington, U.S., 2021.
9. **K. Papadimitriou**, M. Parelli, G. Sapountzaki, G. Pavlakos, P. Maragos, and G. Potamianos, "Multimodal Fusion and Sequence Learning for Cued Speech Recognition from Videos," In *Proc. Universal Access in Human-Computer Interaction. Access to Media, Learning and Assistive Environments (HCII)*, pp. 277-290, Washington, U.S., 2021.
10. G. Sapountzaki, E. Efthimiou, S. E. Fotinea, **K. Papadimitriou**, and G. Potamianos, "Educational Material Organization in a Platform for Greek Sign Language Self Monitoring and Assessment," In *Proc. International Conference on Education and New Learning Technologies (EDULEARN)*, pp. 3322-3331, Online Conference, 2021.
11. **K. Papadimitriou** and G. Potamianos, "A Fully Convolutional Sequence Learning Approach for Cued Speech Recognition from Videos," In *Proc. Euro-*

pean Signal Processing Conference (EUSIPCO), pp. 326-330, Amsterdam, The Netherlands, 2020.

12. **K. Papadimitriou** and G. Potamianos, "Multimodal Sign Language Recognition via Temporal Deformable Convolutional Sequence Learning," In *Proc. Conference of the International Speech Communication Association (INTER-SPEECH)*, pp. 2752-2756, Shanghai, China, 2020.
13. M. Parelli, **K. Papadimitriou**, G. Potamianos, G. Pavlakos, and P. Maragos, "Exploiting 3D Hand Pose Estimation in Deep Learning-Based Sign Language Recognition from RGB Videos," In *Proc. European Conference on Computer Vision Workshop on Sign Language Recognition, Translation and Production (ECCVW-SL RTP)*, pp. 249-263, Glasgow, United Kingdom, 2020.
14. G. Potamianos, **K. Papadimitriou**, E. Efthimiou, S. E. Fotinea, G. Sapountzaki, and P. Maragos, "SL-ReDu: Greek Sign Language Recognition for Educational Applications. Project Description and Early Results," In *Proc. PErvasive Technologies Related to Assistive Environments Conference (PETRA)*, pp. 1-6, Corfu, Greece, 2020.
15. **K. Papadimitriou** and G. Potamianos, "End-to-End Convolutional Sequence Learning for ASL Fingerspelling Recognition," In *Proc. Conference of the International Speech Communication Association (INTERSPEECH)*, pp. 2315-2319, Graz, Austria, 2019.
16. **K. Papadimitriou** and G. Potamianos, "Fingerspelled Alphabet Sign Recognition in Upper-Body Videos," In *Proc. Conference of the European Signal Processing Conference (EUSIPCO)*, pp. 1-5, A Coruña, Spain, 2019.
17. **K. Papadimitriou** and G. Potamianos, "A Hybrid Approach to Hand Detection and Type Classification in Upper-Body Videos," In *Proc. Conference of the European Workshop on Visual Information Processing (EUVIP)*, Tampere, Finland, 2018.
18. S. Chatzivassili, **K. Papadimitriou**, V. Kanakoudis and M. Patelis, "Optimizing the Formation of DMAs in a Water Distribution Network Applying Geometric Partitioning (GP) and Gaussian Mixture Models (GMMs)," *Proceedings*, vol. 2, 2018.
19. **K. Papadimitriou** and C. Nikou, "Tomographic image reconstruction with a spatially varying Gaussian mixture prior," In *Proc. IEEE International Conference on Image Processing (ICIP)*, pp. 4002-4006, Quebec City, Canada, 2015.

Programming Skills Programming Languages: Python, Matlab, C/C++, PHP, Java.
 Deep Learning Frameworks: PyTorch, TensorFlow.
 Web: Web Django, HTML5/CSS3, Javascript.

Web Sites [Github](#)
 [Google Scholar](#)

Language Skills Greek (native).
 English (fluent).
 Italian (fluent).
 German (some knowledge).

Personal Born in 1987; Greek Citizenship.