Curriculum Vitae

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	Aristotle University of Thessaloniki, Thessaloniki, Greece September 2002 - July 2007: Diploma in Electrical and Computer Engineering (5 year degree) Diploma Thesis Advisor: Prof. Michael G. Strintzis		
	Massachussetts Institute of Technology , MA, USA June 2006 - September 2006: Visiting Student at the Dept. of Nuclear Science and Engineering		
Professional Experience	Aristotle University of Thessaloniki , Thessalon Assistant Professor Dept. of Electrical and Computer Engineering	niki, Greece June, 2022 - today	
	Center for Research and Technology Hellas, Thessaloniki, Greece		
	Information Technologies Institute	January, 2017 - May 2022	
	Foundation for Research & Technology Hellas, Heraklion, Greece		
	Institute of Molecular Biology and Biotechnology	December, 2012 - December 2016	
Teaching	 Aristotle University of Thessaloniki Undergraduate level courses at the Dept. of Electrical & Computer Engineering. Algorithm Analysis & Design, Spring 2023. Detection and Estimation Theory, Spring 2023. Pattern Analysis, Fall 2022. Biomedical Engineering, Fall 2018. 		
	MSc Program on Biomedical Engineering, Dept. of Electrical & Computer Engineering.Machine Learning in Biomedical Data Analysis, Spring 2023.		
	University of CreteMSc Program in Bioinformatics, School of MedicineIntroduction to Mathematics (Linear Algebra and Algebra	e nd Probability Theory), Fall 2016.	
Honors and Awards	• Journal article "Emotion Recognition from Brain Signals Using Hybrid Adaptive Filtering and Higher-Order Crossings Analysis" was included in the list of the most influential papers published in IEEE Transactions on Affective Computing journal. The list was published in the conference proceedings of the 6th International Conference on Affective Computing and Intelligent Interaction (ACII2015), which was held in Xian, China, September 21-24, 2015.		

- 3rd IFMBE Young Investigator Award: XII Mediterranean Conference on Medical and Biological Engineering and Computing, 2010.
- Honorable award by Microsoft (awarded by Bill Gates at Microsoft Innvation Center, Athens, Greece), for the development of innovative educational software: project NOESIS (innovative educational platform for kids with Autism), 2008.
- Ranking in top-12 in the worldwide Microsoft Imagine Cup Competition for the project NOESIS, 2007. (over 100 countries participated in the competition)
- Distinction by the Hellenic Mathematical Society for exceptional performance in Thales mathematical contest, 2000 & 2001.

PUBLICATIONS Book chapters

- Panagiotis C. Petrantonakis and I. Kompatsiaris, "Graph Signal Processing Based Analysis of fNIRS signals for Brain-Computer Interfaces," in *Signal Processing to Drive Human-Computer Interaction: EEG and eye-controlled interfaces*, I. Kompatsiaris, C. Kumar, S. Nikolopoulos (Eds.), Institution of Engineering and Technology (The IET), 2020.
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- Panagiotis Giannakeris, Panagiotis C. Petrantonakis, Konstantinos Avgerinakis, Stefanos Vrochidis and I. Kompatsiaris, "First-Person Activity Recognition from Micro-Action Representations using Convolutional Neural Networks and Object Flow Histograms," *Multimedia Tools and Applications (Springer)*, Multimedia Tools and Applications, 2020. DOI: https: //doi.org/10.1007/s11042-020-09902-6
- Panagiotis C. Petrantonakis and I. Kompatsiaris, "On the Talent vs. Luck-Based Evaluation of the Classification Process," *IEEE Access*, vol. 7, no. 1, pp. 37565-37574, 2019. DOI: https://doi.org/10.1109/ACCESS.2019.2905049
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- Panagiotis C. Petrantonakis, "Grid cell firing field detection using compressed sensing," Biomedical Signal Processing and Control, vol. 44, 221-228, 2018. DOI: https://doi.org/ 10.1016/j.bspc.2018.05.006
- Ioulietta Lazarou, Spiros Nikolopoulos, Panagiotis C. Petrantonakis, Ioannis Kompatsiaris, and Magda Tsolaki, "EEG-Based Brain Computer Interfaces for Communication and Rehabilitation of Motor-Impaired People: A Novel Approach of the 21st Century," Frontiers in Human Neuroscience, vol. 12:14, 2018. DOI: https://doi.org/10.3389/fnhum.2018.00014

- 8. Spiros Nikolopoulos, Panagiotis C. Petrantonakis, Kostas Georgiadis, Fotis Kalaganis, Georgios Liaros, Ioulietta Lazarou, Katerina Adam, Anastasios Papazoglou-Chalikias, Elisavet Chatzilari, Vangelis P. Oikonomou, Chandan Kumar, Raphael Menges, Steffen Staab, Daniel Müller, Korok Sengupta, Sevasti Bostantjopoulou, Zoe Katsarou, Gabi Zeilig, Meir Plotnik, Amihai Gotlieb, Sofia Fountoukidou, Jaap Ham, Dimitrios Athanasiou, Agnes Mariakaki, Dario Comandicci, Edoardo Sabatini, Walter Nistico, Markus Plank, and Ioannis Kompatsiaris, "A Multimodal dataset for authoring and editing multimedia content: The MAMEM project," *Data in Brief*, vol. 15, pp. 1048-1056, 2017. DOI: https://doi.org/10.1016/j.dib.2017.10.072
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- Nathan B. Danielson, Gergely F. Turi, Max Ladow, Spyridon Chavlis, Panagiotis C. Petrantonakis, Panayiota Poirazi, and Attila Losonczy "In Vivo Imaging of Dentate Gyrus Mossy Cells in Behaving Mice," *Neuron*, vol. 93, no. 3, pp. 552-559, 2017. DOI: https: //doi.org/10.1016/j.neuron.2016.12.019
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- Panagiotis C. Petrantonakis and Panayiota Poirazi, "Dentate Gyrus Circuitry Features Improve Performance of Sparse Approximation Algorithms," *Plos One*, vol. 10(1):e0117023, 2015. DOI: https://doi.org/10.1371/journal.pone.0117023
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- 6. Panagiotis C. Petrantonakis and I. Kompatsiaris, "A Dimensionality Reduction Method for Data Visualization using Particle Swarm Optimization," in *Proc. of the 12th International Joint Conference on Computational Intelligence*, Online, November, 2020.
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- Panagiotis C. Petrantonakis, Athanassia Papoutsi, and Panayiota Poirazi, "Towards Predicting Persistent Activity of Neurons by Statistical and Fractal Dimension-Based Features," in Proc. of International Joint Conference on Neural Networks, Dallas, TX, USA, 2013.
- Panagiotis C. Petrantonakis and Leontios J. Hadjileontiadis, "An Emotion Elicitation Metric for the Valence/Arousal and Six Basic Emotions Affective Models: A comparative Study," Proc. of the 10th IEEE International Conf. on Information Technology and Applications in Biomedicine, Corfu, Greece, 2010.

- Panagiotis C. Petrantonakis and Leontios J. Hadjileontiadis, "Adaptive Extraction of Emotion-Related EEG Segments Using Multidimensional Directed Information in Time - Frequency Domain," Proc. of the 32nd Annual International Conf. of the IEEE Engineering in Medicine and Biology Society, Buenos Aires, Argentina, 2010. (invited)
- Panagiotis C. Petrantonakis and Leontios J. Hadjileontiadis, "Frontal EEG asymmetry and Affective States: A Multidimensional Directed Information Approach," in Proc. of the XII Mediterranean Conf. on Medical and Biological Engineering and Computing (MEDICON 2010), Chalkidiki, Greece, 2010. (3rd IFMBE Young Investigator Award)
- 14. S. Georgoulis, S. Eleftheriadis, D. Tzionas, K. Vrenas, Panagiotis C. Petrantonakis, and Leontios J. Hadjileontiadis, "Epione: An Innovative Pain Management System Using Facial Expression Analysis, Biofeedback and Augmented Reality-Based Distruction", Proc. of the International Conference on Intelligent Networking and Collaborative Systems (INCoS 2010), Thessaloniki, Greece, 2010.
- 15. D. Tzionas, K. Vrenas, S. Eleftheriadis, S. Georgoulis, Panagiotis C. Petrantonakis, and Leontios J. Hadjileontiadis, "Phantom Limb Pain Management Using Facial Expression Analysis, Biofeedback and Augmented Reality Interfacing", Proc. of the International Conference on Software Development for Enhancing Accessibility and Fighting Info-exclusion (DSAI 2010), Oxford, United Kingdom, 2010. (invited)
- 16. Panagiotis C. Petrantonakis and Leontios J. Hadjileontiadis, "EEG-Based Emotion Recognition Using Hybrid Filtering and Higher Order Crossings," in *Proc. of the 2009 International Conf. on Affective Computing and Intelligent Interaction*, Amsterdam, The Netherlands, 2009.
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- 18. Panagiotis C. Petrantonakis, Jason Vittorias, Dimitris Bolis, Alexandra Tsiligkyri, Vasiliki Kosmidou, Leontios J. Hadjileontiadis, and Stavros M. Panas, "On Modeling the Educational Process of Kids with Autism Spectrum Disorders: The NOESIS Project", Proc. of the 11th IASTED International Conference on Computers and Advanced Technology in Education, Crete, Greece, 2008. (Finalist (top 5) at the Student Paper Competition)
- Panagiotis C. Petrantonakis, Vasiliki Kosmidou, Magda Nikolaraizi, Sofia Koutsogiorgou, and Leontios J. Hadjileontiadis, "SEE and SEE': An Educational Tool for Kids with Hearing Impairment", Proc. of Workshop WALTD'08 held by ICALT 2008, Santander, Spain, 2008.
- Jason Vittorias, Panagiotis C. Petrantonakis, Dimitris Bolis, Alexandra Tsiligkyri, Vasiliki Kosmidou, and Leontios J.Hadjileontiadis, "NOESIS: An Enhanced Educational Environment for Kids with Autism Spectrum Disorders", Proc. of Workshop WALTD'08 held by ICALT 2008, Santander, Spain, 2008.

Abstracts

- Panagiotis C. Petrantonakis and Panayiota Poirazi, "Information Processing in Hippocampus: A Compressed Sensing Approach," in Proc. of The Brain Conferences: Bridging Neural Mechanisms and Cognition, Copenhagen, Denmark, 2015.
- 2. Panagiotis C. Petrantonakis and Panayiota Poirazi, "Dentate Gyrus Circuitry Improves Performance Of The Iterative Soft Thresholding Algorithm," in *Proc. of AREADNE 2014, Research in Encoding And Decoding of Neural Ensembles*, Santorini, Greece, 2014.
- Athanassia Papoutsi, Panagiotis C. Petrantonakis, and Panayiota Poirazi, "Dendritic Nonlinearities Enable PFC Microcircuits to Serve as Predictive Modules of Persistent Activity," in Proc. of 22nd Annual Computational Neuroscience Meeting, Paris, France, 2013.

	4. Panagiotis C. Petrantonakis, Vagia Kaltsa and Leontios J. Hadjileontiadis, "Selective EEG analysis for emotion recognition using multidimensional directed information criteria," in <i>Proc.</i> of the 1st International Congr. on Neurobiology and Clinical Psychopharmacology & European Psychiatric Association Conf. on Treatment Guidance, Thessaloniki, Greece, 2009.	
Seminars & Colloquia	Hippocampus: A holistic Information Processing Theory, Simons Center for Data Analysis (Simons Foundation), New York, NY, August 28th, 2015. (Invited by Prof. Dmitri Chklovskii).	
Service	Guest Editor in Special issues:NIRS-Based Brain Computer Interfaces, Frontiers in Human Neuroscience (October 2020)	
	Journal Associate Editor: • IEEE Signal Processing Letters (June 2021 - today) • IEEE Access (January 2019 - January 2020)	
	Journal Reviewer: IEEE Transactions on Artificial Intelligence IEEE Transactions on Neural Networks Journal of Neural Engineering Neural Networks IEEE Transactions on Information Technology in Biomedicine IEEE Transactions on Biomedical Engineering Signal Processing: Image Communication IEEE Signal Processing Letters EURASIP Journal on Advances in Signal Processing Biomedical Signal Processing and Control IEEE Transactions on Affective Computing IEEE Transactions on Information Forensics and Security IEEE Internet of Things Journal IEEE Access IEEE Transactions on Neural Systems & Rehabilitation Engineering Frontiers in Systems Neuroscience Plos One	
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