Spyridon Thermos

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Research Multimodal representation learning, generative models, synthesis, unsupervised/self-supervised learning for computer vision and medical image analysis.

Experience **Postdoctoral Researcher** (Oct. 2019 - Present), *Institute for Digital Communications (IDCOM)*, THE UNIVERSITY OF EDINBURGH.
Disentangled representations, generative models, multimodal representation learning, medical imaging.

Research Assistant (Jan. 2018 - Sep. 2019), *Information Technologies Institute*, CENTRE FOR RESEARCH & TECHNOLOGY HELLAS
Research and development on full-body 3D reconstruction, 3D mesh compression, multi-RGB-D sensor calibration, and depth denoising ; "VRTogether" EU project (Horizon 2020 Framework Programme for Innovation Action).

Research Assistant (Jan. 2017 - Dec. 2017), *Information Technologies Institute*, CENTRE FOR RESEARCH & TECHNOLOGY HELLAS
Research and development of deep neural networks for scene understanding and concept detection; "DANTE" EU project (Horizon 2020 Framework Programme for Research and Innovation).

Research Assistant (Jan. 2015 - Dec. 2016), *Information Technologies Institute*, CENTRE FOR RESEARCH & TECHNOLOGY HELLAS
Research and development of algorithms for emotion recognition by fusing facial and body features; "ProsocialLearn" EU project (Horizon 2020 Framework Programme for Research and Innovation).

Teaching Experience **Tutoring** (Jan. 2020 - May 2020), THE UNIVERSITY OF EDINBURGH.
Machine Learning in Signal Processing Course (MSc)

Teaching Assistant (May 2016, 2017, 2018, 2019), *Dept. of Electrical and Computer Engineering*, UNIVERSITY OF THESSALY, Volos, Greece.
Case studies (convolutional neural networks, recurrent neural networks) for the "Pattern Recognition (CE345)" undergraduate-level course.

Teaching Assistant (Sept. 2014 - Dec. 2014), *Dept. of Electrical and Computer Engineering*, UNIVERSITY OF THESSALY, Volos, Greece.
Helped with the design and evaluation of the semester project for the "Computer Architecture (CE432)" undergraduate-level course, as well as with grading the weekly assignments of the course.

Teaching Assistant (Sept. 2013 - Dec. 2013), *Dept. of Electrical and Computer*

Engineering, UNIVERSITY OF THESSALY, Volos, Greece.
Helped with the design and evaluation of the semester project for the "Computer Architecture (CE432)" undergraduate-level course, as well as with grading the weekly assignments of the course.

Education
Ph.D.,May **2020**, Dept. of Electrical and Computer Engineering,
UNIVERSITY OF THESSALY, Volos, Greece.
Advisors: Prof. Gerasimos Potamianos, Dr. Petros Daras. *Thesis*: "A Deep Learning Approach to 2D/3D Object Affordance Understanding"

M.Sc., July **2015**, Dept. of Electrical and Computer Engineering,
UNIVERSITY OF THESSALY, Volos, Greece. GPA: 9.94/10.0
Advisor: Prof. Gerasimos Potamianos. *Thesis*: "Voice Activity Detection Using Audio, Video and Depth Information"

Diploma, September **2013**, Dept. of Electrical and Computer Engineering,
UNIVERSITY OF THESSALY, Volos, Greece. GPA: 6.59/10.0
Advisor: Prof. George Stamoulis. *Thesis*: "Finite Elements Code Acceleration for Mechanical Engineering Applications"

Publications
X. Liu*, **S. Thermos***, G. Valvano*, A. Chartsias*, A. O'Neil, S. A. Tsaftaris, *"Metrics for Exposing the Biases of Content-Style Disentanglement."* Preprint, arxiv, abs/2008.12378, 2020.

X. Liu, **S. Thermos**, A. Chartsias, A. O'Neil, S. A. Tsaftaris, *"Disentangled Representations for Domain-generalized Cardiac Segmentation."* STACOM, 2020.

V. Sterzentsenko, A. Doumanoglou, **S. Thermos**, N. Zioulis, D. Zarpalas, P. Daras. *"Deep soft procrustes for markerless volumetric sensor alignment."* In Proc. IEEE VR, 2020.

S. Thermos, P. Daras, G. Potamianos. *"A deep learning approach to object affordance segmentation."* In Proc. IEEE International Conference on Acoustics, Speech, and Signal Processing (**ICASSP**), 2020.

S. Thermos, G.T. Papadopoulos, P. Daras, G. Potamianos. *"Deep sensorimotor learning for RGB-D object recognition."* Computer Vision and Image Understanding (CVIU), vol. 190 (4), Jan. 2020.

V. Sterzentsenko*, L. Saroglou*, A. Chatzitofis*, **S. Thermos***, N. Zioulis*, A. Doumanoglou, D. Zarpalas, P. Daras. *"Self-supervised deep depth denoising."* In Proc. IEEE International Conference on Computer Vision (**ICCV**), 2019.

S. Thermos, G. T. Papadopoulos, P. Daras and G. Potamianos. *"Attention-enhanced sensorimotor object recognition."* In Proc. IEEE International Conference on Image Processing (ICIP), 2018.

F. Langenfeld, A. Axenopoulos, A. Chatzitofis, D. Cracium, P. Daras, B. Du, A. Giachetti, Y. Lai, H. Li, Y. Li, M. Masoumi, Y. Peng, P. L. Rosin, J. Sirugue, L. Sun, **S. Thermos**, M. Toews, Y. Wei, Y. Wu, Y. Zhai, T. Zhao, Y. Zheng, M. Montes. *"SHREC'18 track: Protein shape retrieval."* In Proc. Eurographics Workshop on 3D Object Retrieval, 2018.

S. Thermos, G. T. Papadopoulos, P. Daras and G. Potamianos. *"Deep affordance-grounded sensorimotor object recognition."* In Proc. IEEE Conference on Computer Vision and Pattern Recognition (**CVPR**), Honolulu, Hawaii, USA, 2017. **(spotlight <19% acceptance)**

M. Savva, F. Yu, H. Su, A. Kanezaki, T. Furuya, R. Ohbuchi, Z. Zhou, R. Yu, S. Bai, X. Bai, M. Aono, A. Tatsuma, **S. Thermos**, A. Axenopoulos, G. Th. Papadopoulos, P. Daras, X. Deng, Z. Lian, B. Li, H. Johan, Y. Lu, S. Mk. *"SHREC'17 track: Large-scale 3D shape retrieval from ShapeNet Core55."* In Proc. Eurographics Workshop on 3D Object Retrieval, 2017.

S. Thermos and G. Potamianos. *"Audio-visual speech activity detection in a two-speaker scenario incorporating depth information from a profile or frontal view."* In Proc. IEEE Workshop on Spoken Language Technology (SLT), San Diego, CA, 2016.

A. Psaltis, K. Kaza, K. Stefanidis, **S. Thermos**, K. Apostolakis, K. Dimitropoulos, P. Daras. *"Multimodal active state recognition in serious games applications."* In Proc. IEEE International Conference on Imaging Systems and Techniques (IST), Chania, Greece, 2016.

K. Kaza , A. Psaltis , K. Stefanidis , K. Apostolakis , **S. Thermos**, K. Dimitropoulos, P. Daras. *"Body motion analysis for emotion recognition in serious games."* In Proc. HCI International, Toronto, Canada, 2016

K. Apostolakis, K. Kaza, A. Psaltis, K. Stefanidis, **S. Thermos**, K. Dimitropoulos, E. Dimaraki, P. Daras. *"Path of Trust: A prosocial co-op game for building up trust- worthiness and teamwork."* In Proc. Games and Learning Alliance: Fourth International Conference (GALA), Rome, Italy, 2015.

Book Chapters	G. Potamianos, E. Marcheret, Y. Mroueh, V. Goel, A. Koumbaroulis, A. Vartholomaios, **S. Thermos**, *"Chapter: Audio and visual modality combination in speech processing applications - The Handbook of Multimodal-Multisensor Interfaces: Foundations, User Modeling, and Common Modality Combinations - Volume 1"*, ISBN 978-1-97000-167-9, 2017
Programming Skills	*Programming Languages*: Extensive experience in Python, C++; good working knowledge of C, Lua. *Deep Learning Frameworks*: Extensive experience in PyTorch; good working knowledge of TensorFlow 2, Keras 2. *Software IDEs*: Microsoft Visual Studio, Microsoft Visual Code
Github & Web Site	https://github.com/spthermo https://spthermo.github.io/
Language Skills	*Greek* native. *English*, fluent (TOEFL internet-based 97/120.)
Personal	Born in 1989; Greek Citizenship.

References   Pf. Gerasimos Potamianos, *gpotam@ieee.org*
Dr. Petros Daras, *daras@iti.gr*