

Eleftherios Trivizakis

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[ResearchGate](#)

[LinkedIn Profile](#)

[Github](#)

Employment History

Artificial Intelligence Consultant, LoockMe Project

July 2021-2023, Foundation for Research and Technology – Hellas

- Artificial intelligence-powered content management system
- Deep learning detection of Greek landmarks and landscapes
- Deep learning classification and interpretability of models
- <https://loockme.com/>

Deep Learning Engineer, Procancer-i

January 2022-2023, Foundation for Research and Technology – Hellas

- Deep learning denoising of MR images
- Machine learning analysis for grading prostate cancer
- Deep learning detection of prostate lesions
- <https://www.procancer-i.eu/>

Data Analyst, Genomed4All

September 2022-2023, Foundation for Research and Technology – Hellas

- Machine learning multi-omics for assessing the survival of multiple myeloma patients
- Design deep learning-based segmentation of bone marrow
- <https://genomed4all.eu/>

Artificial Intelligence Consultant, THORAX

September 2021-present, Foundation for Research and Technology – Hellas

- Dataset collection workflow
- Design, implement, evaluate deep learning models
- <https://thorax.pagni.gr/>

Member, Computational BioMedicine Laboratory

July 2017-2023, Foundation for Research and Technology - Hellas

- Deep learning research on medical imaging
 - <https://www.ics.forth.gr/cbml/person/Trivizakis/Eleftherios>

PostDoc Researcher, Computational BioMedicine Laboratory

February 2024-present, Foundation for Research and Technology - Hellas

- Machine learning on medical data
 - <https://www.ics.forth.gr/cbml/person/Trivizakis/Eleftherios>

Teaching Assistant

October 2017-January 2018, Technological Educational Institute, Heraklion Crete

- Department of Electrical Engineering
- Laboratory courses:
 - i. Programming II - C
 - ii. Introduction to Computers

February 2017–June 2017, Technological Educational Institute, Heraklion Crete

- Department of Electrical Engineering
- Laboratory and e-learning courses:
 - i. Programming I – C

Military Service

March 2014–May 2015

- School for Reserve Officers of Infantry, Heraklion Crete, April 2014
- Assistant Officer of 3rd Office, 643 TE, Chios, September 2014
- Organizing training schools for new recruits
- Honorable discharged as Second Lieutenant, May 2015

University Hospital of Heraklion

November 2011-May 2012, Heraklion Crete

- full-stack developer – Internship
- I created a semi-automated inventory system for local computers with php
- I also deployed a captive portal with pfsense/xen/radius server

Other roles: 2007-2017: freelance web/java developer, retail, customer service and support

Scholarships

- i. Project ARCHERS: Advancing Young Researchers
 - one-year scholarship, awarded in 2019, 2020, and 2021
 - Funded by Stavros Niarchos Foundation

Programming Skills

scientific programming, python, keras, tensorflow, java se

Research Interests

synthetic/computational/artificial intelligence, deep learning, computer vision, data analysis, image analysis, multi-omics

Education

- i. PhD Candidate, School of Medicine, University of Crete
 - Domain: Computational Medical Image Analysis
 - Expected: early 2024
- ii. MSc Informatics and Multimedia, Hellenic Mediterranean University
 - Specialization: Computational Intelligence
 - Grade: 9.24/10, thesis 10/10
 - Awarded: 2018, full-time, 90 ECTS
- iii. BSc Informatics Engineering, Technological Educational Institute of Crete
 - Specialization: Informatics Engineer
 - Grade: 6.85/10, thesis 10/10
 - Graduated: 2013, part-time, 240 ECTS
- iv. English–TOEIC, Score: 950/990, C2
- v. Native Greek

List of Publications

- [1] **E. Trivizakis**, G. C. Manikis, K. Nikiforaki, K. Drevelegas, M. Constantinides, A. Drevelegas, and K. Marias, "Extending 2-D Convolutional Neural Networks to 3-D for Advancing Deep Learning Cancer Classification with Application to MRI Liver Tumor Differentiation," *IEEE J. Biomed. Heal. Informatics*, vol. 23, no. 3, pp. 923–930, 2019, doi: 10.1109/JBHI.2018.2886276.
- [2] G. Giannakakis, **E. Trivizakis**, M. Tsiknakis, and K. Marias, "A novel multi-kernel 1D convolutional neural network for stress recognition from ECG," in *2019 8th International Conference on Affective Computing and Intelligent Interaction Workshops and Demos, ACIIW 2019*, 2019, doi: 10.1109/ACIIW.2019.8925020.
- [3] **E. Trivizakis**, G. Ioannidis, V. Melissianos, G. Papadakis, A. Tsatsakis, D. Spandidos, and K. Marias, "A novel deep learning architecture outperforming 'off-the-shelf' transfer learning and feature-based methods in the automated assessment of mammographic breast density," *Oncol. Rep.*, vol. 42, no. 5, pp. 2009–2015, Sep. 2019, doi: 10.3892/or.2019.7312.
- [4] **E. Trivizakis**, G. Papadakis, I. Souglakos, N. Papanikolaou, L. Koumakis, D. Spandidos, A. Tsatsakis, A. Karantanas, and K. Marias, "Artificial intelligence radiogenomics for advancing precision and effectiveness in oncologic care (Review)," *Int. J. Oncol.*, vol. 57, no. 1, pp. 43–53, May 2020, doi: 10.3892/ijo.2020.5063.
- [5] N. Tsiknakis, **E. Trivizakis**, E. Vassalou, G. Papadakis, D. Spandidos, A. Tsatsakis, J. Sanchez-Garcia, R. Lopez-Gonzalez, N. Papanikolaou, A. Karantanas, and K. Marias, "Interpretable artificial intelligence framework for COVID-19 screening on chest X-rays," *Exp. Ther. Med.*, May 2020, doi: 10.3892/etm.2020.8797.
- [6] **E. Trivizakis**, N. Tsiknakis, E. Vassalou, G. Papadakis, D. Spandidos, D. Sarigiannis, A. Tsatsakis, N. Papanikolaou, A. Karantanas, and K. Marias, "Advancing Covid-19 differentiation with a robust preprocessing and integration of multi-institutional open-repository computer tomography datasets for deep learning analysis," *Exp. Ther. Med.*, vol. 20, no. 5, pp. 1–1, Sep. 2020, doi: 10.3892/etm.2020.9210.
- [7] G. S. Ioannidis, **E. Trivizakis**, I. Metzakis, S. Papagiannakis, E. Lagoudaki, and K. Marias, "Pathomics and Deep Learning Classification of a Heterogeneous Fluorescence Histology Image Dataset," *Appl. Sci.*, vol. 11, no. 9, p. 3796, Apr. 2021, doi: 10.3390/app11093796.
- [8] G. S. Ioannidis, S. Christensen, K. Nikiforaki, **E. Trivizakis**, K. Perisinakis, A. Hatzidakis, A. Karantanas, M. Reyes, M. Lansberg, and K. Marias, "Cerebral CT perfusion in acute stroke: The effect of lowering the tube load and sampling rate on the reproducibility of parametric maps," *Diagnostics*, vol. 11, no. 6, pp. 1–14, 2021, doi: 10.3390/diagnostics11061121.
- [9] **E. Trivizakis**, G. S. Ioannidis, I. Souglakos, A. H. Karantanas, M. Tzardi, and K. Marias, "A neural pathomics framework for classifying colorectal cancer histopathology images based on wavelet multi-scale texture analysis," *Sci. Rep.*, vol. 11, no. 1, p. 15546, Dec. 2021, doi: 10.1038/s41598-021-94781-6.
- [10] E. Kontopodis, E. Papadaki, **E. Trivizakis**, T. Maris, P. Simos, G. Papadakis, A. Tsatsakis, D. Spandidos, A. Karantanas, and K. Marias, "Emerging deep learning techniques using magnetic resonance imaging data applied in multiple sclerosis and clinical isolated syndrome patients (Review)," *Exp. Ther. Med.*, vol. 22, no. 4, pp. 1–17, 2021, doi: 10.3892/etm.2021.10583.
- [11] **Trivizakis, E.**, Souglakos, I., Karantanas, A. H., & Marias, K. (2021). Deep Radiotranscriptomics of Non-Small Cell Lung Carcinoma for Assessing Molecular and Histology Subtypes with a Data-Driven Analysis. *Diagnostics*, 11(12), 2383.
- [12] Dimitriadis A., **Trivizakis E.**, Papanikolaou N., Tsiknakis M., K. Marias (2022), Enhancing Cancer Differentiation with Synthetic MRI Examinations via Generative

- [13] **Trivizakis, E.**, & Marias, K. (2023). Deep Learning Fundamentals. In Introduction to Artificial Intelligence (pp. 101-131). Cham: Springer International Publishing.
- [14] **Trivizakis, E.**, Aidonis, V., Pezoulas, V. C., Goletsis, Y., Oikonomou, N., Stefanis, I, Marias, K. (2023, June). LooockMe: An Ever Evolving Artificial Intelligence Platform for Location Scouting in Greece. In *International Conference on Engineering Applications of Neural Networks* (pp. 315-327). Cham: Springer Nature Switzerland.
- [15] **Trivizakis, E.**, et al, Deep Learning-based Detection of Greek Locations and Landmarks: A Qualitative Analysis of Weakly Supervised Classification and Supervised Detection (2023), IEEE International Conference on Mathematics, Computer Science, and Industry 2023, Athens, IEEE Access.
- [16] **Trivizakis, E.**, et al, (2023) Ensemble of Heterogeneous Machine Learning Models with Multiple Inputs for Multi-Omics Analysis, IEEE EMBS International Conference on Data Science and Engineering in Healthcare, Medicine & Biology, Malta, IEEE Access.
- [17] Koutoulakis E., **Trivizakis, E.**, et al, (2023) Fully Automated Detection and Segmentation Pipeline for the Bone Marrow of the Lytic Bone of Multiple Myeloma Patients, IEEE EMBS International Conference on Data Science and Engineering in Healthcare, Medicine & Biology, Malta, IEEE Access.
- [18] Ioannidis G.S., **Trivizakis, E.**, et al, (2023), A Machine Learning Framework for Hair Type Categorization to Optimize the Hair Removal Algorithm in Dermatoscopy Images, IEEE EMBS International Conference on Data Science and Engineering in Healthcare, Medicine & Biology, Malta, IEEE Access.
- [19] **Trivizakis, E.**, Koutroumpa, N. M., Souglakos, J., Karantanas, A., Zervakis, M., & Marias, K. (2023). Radiotranscriptomics of non-small cell lung carcinoma for assessing high-level clinical outcomes using a machine learning-derived multi-modal signature. *BioMedical Engineering OnLine*, 22(1), 125.