Christos Tzagkarakis

Curriculum Vitae

Marias Polidouri 3
713 03, Heraklion, GREECE
📞 *+31 6 133 21 615*
✉ *ctzagkarakis@gmail.com*
🖥 *www.linkedin.com/in/ctzag/*
Ⓢ *christos.tzagkarakis*

Summary

I received the BSc and MSc degrees from the Department of Computer Science, University of Crete, Greece, in 2005 and 2007, respectively. I was awarded a PhD degree in Computer Science from the same department in 2014, while in parallel I attended the undergraduate program of the Department of Mathematics, University of Crete, leading to a BSc degree obtained in 2014. My interests focus on, but not restricted to, signal processing, especially speech and audio processing, time series analysis, machine learning, deep learning architectures, and data analytics for Internet of Things applications and edge computing. My objective is to provide real solutions to real problems.

Experience

Vocational

2/2018–Present   **Research Associate**, *Foundation for Research & Technology - Hellas and Member of the Artificial Intelligence, Machine Learning and Biomedical Informatics Lab (University of Crete)*.

- Participate in the research and development activities of the project Smart End-to-end Massive IoT Interoperability, Connectivity and Security - SEMIoTICS, funded under EU Horizon 2020. In the context of SEMIoTICS project, I am responsible for developing a pattern-driven framework, built upon existing IoT platforms, to enable and guarantee secure and dependable actuation and semi-autonomic behaviour in IoT/IIoT applications. The SEMIoTICS framework will support cross-layer intelligent dynamic adaptation, including heterogeneous smart objects, networks and clouds, addressing effective adaptation and autonomic behaviour at edge and backend layers based on intelligent data analytics and machine learning methods.
  - Involved in writing and delivering the project's reports.
  - Performing novel research and preparing scientific publications related with the project's milestones.
  - Cooperating with the industrial and academic partners through teleconference and face-to-face meetings.

9/2015–8/2017   **Post-doctoral Researcher**, *Delft University of Technology, Circuits and Systems Group*.

- Design and evaluation of compressive sensing algorithms for wideband acoustic source localization and separation in the framework of the project "Acoustic Source Localization and Acquisition", funded by **Google Inc.**
  - Responsible for preparing and delivering the monthly project's reports.
  - Performing novel research & development and preparing scientific publications related with the project's milestones.
  - Cooperating with the Google Inc. partner through teleconference meetings.
  - Invited talk at Chrome/YouTube research conference in Mountain View (Google Inc. HQ).
- Implementation of a room geometry estimation algorithm using graph-based theory in the framework of the project "Distributed Processing of Audio Signals", funded by **Huawei Technologies Co.**
  - Involved in preparing and delivering the project's report.
  - Responsible for developing a demo for room geometry estimation, presented in Huawei research center in Munich.

7/2010–5/2014   **Research Assistant**, *Foundation for Research & Technology - Hellas*.

- Development of signal processing algorithms in the framework of the Greek General Secretariat for Research and Technology funded project "DISFER: Distributed Sensor Systems for Emergency Response".
- Development of signal processing algorithms in the framework of the project "Sparse Signal Modeling Applied in Speech Processing".
- Development of algorithms in the framework of the project "Evaluation and Optimization of Stream Processing Systems in Demanding Applications".

- Participation in the EU funded research project "Enhanced, Ubiquitous, and Dependable Broadband Access using MESH Networks (EU-MESH)".
- Development of signal processing algorithms in the framework of the research project "Encoding and Transmission of Multi-Channel Audio".

Teaching

2005-2013 **Teaching Assistant**, *Department of Computer Science, University of Crete*.
- Responsible for giving lectures (discussion sessions), holding office hours for answering students' questions, grading and preparing exams and homeworks in the following courses:
  Calculus I, Pattern Recognition, Applied Mathematics for Engineers, Digital Audio Processing, Applied Stochastic Processes, Statistical Signal Processing, Multimedia Technologies, Introduction in Probability Theory

2009-2011 **Teaching Assistant**, *Technological Educational Institute of Crete*.
- Responsible for preparing and giving lectures during the lab sessions in the following courses:
  Introduction to Informatics I – Department of Social Work, Introduction to Informatics II – Department of Social Work, Speech and Audio Processing – Department of Applied Informatics & Multimedia

Miscellaneous

9/2014–6/2015 **Private (Programmer Analyst)**, *Hellenic Army, Military Service*.

Skills & Expertise

- **Analytical skills**: Signal Processing, Statistical Signal Processing, Estimation Theory, Speech and Audio Processing, Machine Learning, Data Analytics, Time Series Analysis, Deep Learning, Compressive Sensing, Sparse Modeling, Dictionary Learning, Matrix Completion
- **Computer skills**:
  Programming languages: C, C++, Python, Matlab, Octave, HTML, PHP, SQL
  Parallel and distributed programming: Matlab
  Embedded systems: C
  Optimization software/toolboxes: Matlab, Scikit-learn, TensorFlow, Keras
  Operating systems: Linux, Windows, Mac-OS
  Office suites: Microsoft Office, Libre(Open) Office, LaTeX
  Tools: Git, Adobe software
- **Organizational skills**: Familiar with the hierarchical structure of working groups, teamwork and management of working groups.
- **Social skills**: Rapid integration into working groups that may include persons with different cultural background and personalities. Collaboration spirit.

Education

PhD degree Department of Computer Science, University of Crete, GPA: 9.33/10

Thesis: "Sparse and low-rank techniques for robust speaker recognition and missing-feature reconstruction".

Supervisor: Prof. Athanasios Mouchtaris, Graduation date: July 2014

BSc degree Department of Mathematics, University of Crete, GPA: 7.33/10

Graduation date: March 2014

MSc degree Department of Computer Science, University of Crete, GPA: 9.71/10 (**First in class** with highest GPA)

Thesis: "Multichannel audio modeling and coding for immersive audio based on the sinusoidal model".

Supervisor: Prof. Panagiotis Tsakalides, Graduation date: December 2007

BSc degree Department of Computer Science, University of Crete, GPA: 8.00/10 (**Fifth in class** with highest GPA)

Diploma Thesis: "Musical genre classification using statistical processing methods".

Supervisor: Prof. Panagiotis Tsakalides, Graduation date: July 2005

Languages

Greek	Mother tongue
English	Full professional proficiency

Publications

Full publications list can be found in my Google Scholar profile:
`https://tinyurl.com/yctm8gaw`

Volunteer Experience

Reviewer	IEEE Transactions on Audio, Speech and Language Processing
	Journal of Electrical and Computer Engineering (EURASIP)
	European Signal Processing Conference (EUSIPCO)
	IEEE International Workshop on Multimedia Signal Processing
	IEEE Symposium on Computers and Communications (ISCC)
	International Conference on Digital Signal Processing (DSP)
	International Conference on Information, Intelligence, Systems and Applications (IISA)
	World Congress on Information and Communication Technologies (WICT)
Poster Evaluation Committee	womENcourage 2017 (4th ACM-W Europe Celebration of Women in Computing, Barcelona, Spain, September 2017)
	womENcourage 2016 (3rd ACM-W Europe Celebration of Women in Computing, Linz, Austria, September 2016)
Treasurer	Treasurer of the graduate students society (management board) of the Department of Computer Science of the University of Crete (2008-2009)

Activities & Interests

frame drum percussionist, hiking, Latin dancing, photography, running