Athanasios Papaioannou

Cirriculum Vitae

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Research Interests

Computer Vision, Machine Learning, 3D Face Statistical Models, Medical Imaging.

Education

2012–2016	**PhD in Computing**
	Imperial College London, **UK**.
	Topic: Component Analysis of complex-valued data for machine learning and computer vision tasks
	Supervisor: Dr Stefanos Zafeiriou
	Comittee: Prof. Abbas Edalat, Dr. Nikolaos V. Boulgouris
2003–2005	**MSc in Digital Media**
	Aristotle University Thessaloniki, **Greece**.
	Topic: Document clustering using statistical language modeling techniques
	Supervisor: Prof. Constantine L. Kotropoulos
1999–2003	**Bachelor in Informatics**
	Aristotle University Thessaloniki, **Greece**.
	Topic: Video Fingerpints
	Supervisor: Prof. Ioannis Pitas

Experience

Nov 2019–present	**Senior Research Engineer**	
	Facesoft, **London**.	
	Team	3D Computer Vision Team
	Projects	Worked on multiple projects spanning from expression recognition to 3D Models.
Jan 2018–Oct 2019	**Research Associate**	
	Institute of Child Health, UCL, **London**.	
	Team	CranioFacial Group.
	Projects	FaceValue
		Worked on 3D Face Statistical models for children with facial deformities

Jan 2017–Dec 2018	**Research Associate**
	Imperial College London.

Team Intelligent Behaviour Understanding Group (iBUG)
Projects TeSLA: An Adaptive Trust-based e-assesment System for Learning (EU).
Development of face deformable tracking and verification for an e-assesment platform

Oct 2012–Dec 2016	**Research Assistant**
	Imperial College London.

Team Intelligent Behaviour Understanding Group (iBUG)
Projects 4D-FAB Automatic analysis of facial behaviour in 4D (EP-SRC).
Development of a 4D-facial database for emotional and behaviour recognition.

Jan 2004–Jun 2006	**Junior Researcher**
	Aristotle University , **Thessaloniki**, **Greece**.

Team Artificial Intelligence & Information Analysis (AIIA)
Projects Multimedia Understanding through Semantics, Computional and Learning (European Network of Excellences)
Development of multimedia data mining and machine learning algorithms using C/C++.

Teaching Experience

2013–2017	**Teaching Assistant**
	Imperial College London, **UK**.

- Computational Techniques (undergraduate course): Lab tutoring, coursework marking.
- Machine Learning (postgraduate course): Lab tutoring, coursework marking
- Advanced Statistical Machine Learning (postgraduate course): Coursework design, lab tutoring, coursework marking.

2009–2012	**Teacher in High School**
	Greek Ministry of Education, **Greece**.

Teaching basic IT skills and programming at children and young adults

2010–2011	**Adjunct Lecturer**
	Department of Digital Systems, University of Peloponnese, **Sparta**, **Greece**.

- Programming I (C): Coursework design, lab tutoring, coursework marking.
- Programming II (C++): Coursework design, lab tutoring, coursework marking.
- Data structures and algorithms (C++): Coursework design, lab tutoring, coursework marking.

2007–2009	**Adjunct Lecturer**
	Department of Business Administration, International Hellenic University, **Kavala**, **Greece**.

○ Structure programming (C): Coursework design, lab tutoring, coursework marking.

○ Object Oriented Programming (C++): Coursework design, lab tutoring, coursework marking.

○ Data structures and algorithms (C++): Coursework design, lab tutoring, coursework marking.

○ Multimedia in Information management (Java): Coursework design, lab tutoring, coursework marking.

Languages

English	**Fluent**
French	**Basic**
Greek	**Native**

Programming skills

Github profile	https://github.com/apapaion
Languages	python, C/C++, Java, Matlab
Libraries	numpy, keras, tensorflow, pytorch, scikit-learn, scipy, ipython, git

Invited Talks

Feb 2018	1st Workshop on Engineering Devices and Treatments for Congenital Diseases, 15-17 February, 2018, Montecastelli Pisano, Italy
April 2018	2nd UK Fluid Network (UKFN) meeting, 17 April, 2018, University College London
Jan 2019	Seminar of Machine Vision module (MSc Data Science), 9 January 2019, Exeter

Positions of Responsibility

Local Chair	British Machine Vision Conference (BMVC) 2017
Web chair	British Machine Vision Conference (BMVC) 2017

Publications

Refereed Journal Articles

2020	S. Moschoglou, S. Ploumpis, M. Nicolaou, **A. Papaioannou** and S. Zafeiriou. 3DFaceGAN: Adversarial Nets for 3D Face Representation, Generation. *International Journal of Computer Vision (IJCV)* *(impact factor 2019: 6.071)*, May 2020.
2019	P. Knoops*, **A. Papaioannou***, A. Borghi, R. Breakey, A. Wilson, O. Jeelani, S. Zafeiriou, D. Steinbacher, B. Padwa , D. Dunaway and S. Schievano.(*Joint first authorship). A machine learning framework for automated diagnosis and computer-assisted planning in plastic and reconstructive surgery. *Scientific Reports* *(impact factor 2019:4.011)*, September 2019.

2019   D. Kollias, P. Tzirakis, M. Nicolaou, **A.Papaioannou**, G. Zhao, B Schuller, I. Kotsia, S. Zafeiriou, Deep Affect Prediction in-the-Wild: Aff-Wild Database and Challenge, Deep Architectures, and Beyond, *International Journal of Computer Vision (IJCV)* *(impact factor 2019: 6.071)*, February 2019.

2019   L. Lande, **A. Papaioannou**, D. Dunaway, Geometric morphometrics aided by machine learning in craniofacial surgery, *Journal of orthodontics, 46(1 suppl), 81-83*, 2019

2013   **A. Papaioannou** and S. Zafeiriou, Principal component analysis with complex kernel: The widely linear model. *IEEE Transactions on Neural Networks and Learning Systems (TNN)* *(impact factor 2013: 6.638)*, October 2013.

Conference Presentations

2020   P. Tzirakis, **A Papaioannou**, A. Lattas, M. Tarasiou, B. Schuller and S. Zafeiriou. Synthesising 3D Facial Motion from "In-the-Wild" Speech, *to appear in International Conference on Automatic Face and Gesture Recognition*, November 2020.

2017   **A. Papaioannou**, E. Antonakos and S. Zafeiriou. Complex Representations for Learning Statistical Shape Priors. *25th European Signal Processing Conference (EUSIPCO)*, August 2017.

2017   S. Moschoglou, **A. Papaioannou**, C. Sagonas, J. Deng, I. Kotsia and S. Zafeiriou. AgeDB: the first manually collected, in-the-wild age database, "First Affect-in-the-Wild Challenge: Database and Baseline", *IEEE Conference on Computer Vision and Pattern Recognition Workshops (CVPRW)*, July 2017.

2017   S. Zafeiriou, D. Kollias, M. Nicolaou, **A. Papaioannou**, G. Zhao and I. Kotsia. Aff-wild Challenge: Database and Baseline, *IEEE Conference on Computer Vision and Pattern Recognition Workshops (CVPRW)*, July 2017.

2016   S. Zafeiriou, **A. Papaioannou**, I. Kotsia, M. Nicolaou, G. Zhao. Facial Affect "in-the-wild": A survey and a new database, *IEEE Conference on Computer Vision and Pattern Recognition Workshops (CVPRW)*, June 2016.

Other Publications

2019   P. Knoops, **A. Papaioannou**, A. Borghi, R. Breakey, A. Wilson, O. Jeelani, S. Zafeiriou, D. Steinbacher, B. Padwa , D. Dunaway and S. Schievano. S4B-03 Session 4B: Orthognathic/Treacher-Collins A machine learning framework for automated diagnosis and computer-assisted surgery planning in orthognathic surgery. *Plastic and Reconstructive Surgery–Global Open*, 7(8S-2), 95, September 2019.

2019   L. Van de Lande, **A. Papaioannou**, S. Zafeiriou, D. Dunaway. S12-09 Session 12: Faciocraniosynostosis–part ii A machine learning approach for outcome prediction of midfacial bipartition distraction in apert patients. *Plastic and Reconstructive Surgery–Global Open*, 7(8S-2):155-6, September 2019.

2019 D. Dunaway, **A. Papaioannou**, A. Borghi, L. Van de Lande, P. Knoops, F. Angullia, O. Jeelani, S. Schievano, S. Zafeiriou. S15-01 Session 15: Planning/imaging-part i Statistical shape modeling and related techniques as a method to aid diagnosis, plan surgery and assess outcome in craniofacial surgery. *Plastic and Reconstructive Surgery–Global Open*. ;7(8S-2):174, September 2019.