Stylianos Ploumpis

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Research Objectives-Interests

- 3D Computer Vision, Machine Learning, 3D Morphable Models, Deep Learning, Graphics

Education

- **Imperial College London** — London, UK
  PhD in Computer Science, Department of Computing — Jul 2017 - Jul 2021
  – Thesis title: "3D Morphable Models and Beyond: Algorithms and Applications"

- **Imperial College London** — London, UK
  MSc in Machine Learning, Department of Computing — Oct 2015 - Sept 2016
  – Dynamical Systems and Deep Learning
  – Intelligent Data and Probabilistic Inference
  – Computational Neurodynamics
  – Advanced Statistical Machine Learning and Pattern Recognition
  – Computational Finance
  – Thesis title: "Multi-view 3D reconstruction and tracking of non-rigid and deformable surfaces based on depth sensor information "

- **Democritus University of Thrace** — Xanhti, Thrace
  MEng in Production Engineering and Management — Oct 2008 - Sept 2013
  – 5 year MEng of Engineering ('Diploma')
  – GPA 8.63 on a scale of 10 (first in class)
  – Diploma thesis title: "Design and control of a flying robotic platform based on inertial navigation and machine vision information"

Research Experience

- **Google** — London, UK
  Senior Research Scientist — March 2024 - Present
  – Digital humans at Google AR & VR

- **Huawei Technologies co. Ltd** — London, UK
  Senior Research Scientist — June 2020 - Fed 2024
  – Computer Vision Team at R&D Department in Consumer Business Group (CBG)

- **Microsoft Corporation** — Redmond, WA
  Research Intern — Aug 2019 - Oct 2019
  – AI Perception and Mixed Reality Platform Team.

- **FaceSoft Ltd.** — London, UK
  Computer Vision Scientist — Apr 2018 - Jul 2019
  – Computer Vision/Graphics Scientist specialising in 3D Morphable Models and Machine Learning.

- **Intelligent Behaviour Understanding Group (iBUG), Imperial College London** — London, UK
  Research Assistant — Sept 2016 - Jul 2017
  – Applied sensor fusion techniques for in-the-wild 3D face reconstruction.

- **Laboratory of Robotics and Automation, DUTH** — Xanthi, Thrace
  External Researcher — Jun 2015 - Sept 2015
  – ViPED project: On-road vehicle passenger detection for autonomous vehicles

Awards and Honors

- Scholarship awarded by the Fulbright foundation in Greece for graduate studies in the in the United States. (Declined: continued graduate studies in the EU) (2015)

- Scholarship awarded by the Greek State Scholarships Foundation (I.K.Y) for ranking first in the Department with an annual GPA of 9.17 out of 10 (2011-2012)

- State Award for being among the first 25% of students entered the Department of Production Engineering and Management (2008)

Selected Publications

- **S.Ploumpis**, A.Amanatiadis, A.Gasteratos. A stereo matching approach based on particle filters and scattered control landmarks. *Image and Vision Computing (2015) pp. 13-23.*

- J.Booth, E.Antonakos, **S.Ploumpis**, G.Trigeorgis, Y.Panagakis and S.Zafeiriou. 3D Face Morphable Models "In-the-Wild". *CVPR July 2017.*
- J.Booth, A.Roussos, E.Ververas, E.Antonakos, **S.Ploumpis**, Y.Panagakis and S.Zafeiriou. 3D Reconstruction of" In-the-Wild" Faces in Images and Videos, *TPAMI July 2018.*
- S.Moschoglou **S.Ploumpis**, M.Nicolaou, and S.Zafeiriou. Multi-Attribute Probabilistic Linear Discriminant Analysis for 3D Facial Shapes, *ACCV Dec 2018.*
- A.Amanatiadis, E.Karakasis, L.Bampis, **S.Ploumpis**, and A.Gasteratos. ViPED: On-road Vehicle Passenger Detection with Monocular Vision, *Robotics and Autonomous Systems (2019) pp. 282-290.*
- **S.Ploumpis**, H.Wang, N.Peers, W.Smith and S.Zafeiriou. Combining 3D Morphable Models: A Largescale Face-and-Head Model, *CVPR June 2019 (Oral)*
- B.Gecer, **S.Ploumpis**, and S.Zafeiriou, GANFIT: Generative Adversarial Network Fitting for High Fidelity 3D Face Reconstruction, *CVPR June 2019*
- G.Bouritsas, S.Bokhnyak, **S.Ploumpis**, S.Zafeiriou and M.Bronstein, Neural 3D Morphable Models: Spiral Convolutional Networks for 3D Shape Representation Learning and Generation, *ICCV 2019*
- S.Moschoglou*, **S.Ploumpis***, M. Nicolaou and S.Zafeiriou, 3DFaceGAN: Adversarial Nets for 3D Face Representation, Generation, and Translation, *IJCV March 2020*
- **S.Ploumpis**, E.Ververas, E.Sullivan, S.Moschoglou, H.Wang, N.Peers, W.Smith and S.Zafeiriou. Towards a complete 3D morphable model of the human head, *TPAMI March 2020*
- A.Lattas, S.Moschoglou, B.Gecer, **S.Ploumpis**, V.Triantafyllou, A.Ghosh and S.Zafeiriou, AvatarMe: Realistically Renderable 3D Facial Reconstruction, *CVPR June 2020*
- RA.Potamias, J.Zheng, **S.Ploumpis**, G.Bouritsas, E.Ververas and S.Zafeiriou, Learning to Generate Customized Dynamic 3D Facial Expressions, *ECCV Aug 2020*
- B.Gecer, A.Lattas, **S.Ploumpis**, J.Deng, A.Papaioannou, S.Moschoglou and S.Zafeiriou, Synthesizing coupled 3d face modalities by trunk-branch generative adversarial networks, *ECCV Aug 2020*
- B.Gecer, **S.Ploumpis**, I.Kotsia, S.Zafeiriou, Fast-GANFIT: Generative Adversarial Network for High Fidelity 3D Face Reconstruction, *TPAMI May 2021*
- A.Lattas, S.Moschoglou, **S.Ploumpis**, B.Gecer, A.Ghosh and S.Zafeiriou, AvatarMe^{++} Facial Shape and BRDF Inference with Photorealistic Rendering-Aware GANs, *TPAMI Dec 2021*
- **S.Ploumpis***, S.Moschoglou*, V.Triantafyllou and S.Zafeiriou, 3D human tongue reconstruction with adversarial surface generation, *CVPR June 2022 (Oral)*
- RA.Potamias, **S.Ploumpis** and S.Zafeiriou, Neural Mesh Simplification, *CVPR Jun 2022*
- A.Papaioannou, B.Gecer, S.Moschoglou, **S.Ploumpis** and S.Zafeiriou, MimicME: A Large Scale Diverse 4D Database for Facial Expression Analysis, *ECCV 2022*
- M.Doukas, **S.Ploumpis** and S.Zafeiriou, Dynamic Neural Portraits, *WACV 2023*
- A.Lattas, S.Moschoglou, **S.Ploumpis**, B.Gecer, J.Deng and S.Zafeiriou,FitMe: Deep Photorealistic 3D Morphable Model Avatars, *CVPR 2023*
- RA.Potamias, **S.Ploumpis**, S.Moschoglou, V.Triantafyllou and S.Zafeiriou, Handy: Towards a high fidelity 3D hand shape and appearance model, *CVPR 2023*
- M.Tarasiou, RA.Potamias, E.O'Sullivan, **S.Ploumpis**, S.Zafeiriou, Locally Adaptive Neural 3D Morphable Models *CVPR 2024*

Patents

- **S.Ploumpis** and S.Zafeiriou, Combining three-dimensional Gaussian process morphable models *GB2582047A Sept 2020*
- **S.Ploumpis** and S.Zafeiriou, Combining three-dimensional morphable models *GB2582010A*   *Sept 2020*
- S.Moschoglou, **S.Ploumpis** and S.Zafeiriou, Enhancement of three-dimensional facial scans *GB2581991A*   *Sept 2020*
- A.Lattas, S.Moschoglou, **S.Ploumpis**, S.Zafeiriou, Three-dimensional facial reconstruction *GB2593441A*   *Sept 2021*
- **S.Ploumpis**, S.Moschoglou, and S.Zafeiriou, 3D tongue reconstruction from single images *WO202209610*   *May 2022*

Technical Skills

-Languages: Python, Pytorch, Matlab Familiar with: C#, Unity, OpenCV, Basic Linux Programming

Additional Information

- Fluent in English and Greek, Elementary Spanish
- Affiliations: Intelligent Behavior Understanding Group (iBUG) (`https://ibug.doc.ic.ac.uk/`)
- Group of Robotics and Cognitive Systems (`http://robotics.pme.duth.gr`)