Alexandros Lattas

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Education

Imperial College London | PhD in Computer Science | 2019 – 2023 | Supervised by Prof S. Zafeiriou and Prof A. Ghosh

Thesis Title | Capturing, Modeling and Reconstructing Photorealistic Avatars

Published in | CVPR, ICCV, ECCV, TPAMI, NeurIPS, SIGGRAPH, ICLR. Also, 3 commercialized projects and 2 patents

Imperial College London | MSc in Advanced Computing | 2017-2018

Thesis | High Resolution 3D Face Generation with Generative Adversarial Networks

Modules | Statistical Machine Learning, Graphics, Reinforcement Learning, Computer Vision, Deep Learning

Athens University of Economics and Business | BSc Management Science and Technology | 2013–2017

Thesis | Improving control on Tensorflow Queues API (Merged #10175)

Modules | Software Engineering, Algorithms, Statistics, Databases, Business Analytics, IT Systems

University College London | School of Management (Affiliate Student) | 2015 – 2016

Modules | Innovation Management, Project Management, Digital Marketing

Research & Work Experience

Researcher in Computer Vision | Huawei, Noah's Ark Lab | July 2020 – Present

Applied R&D on photorealistic human avatars, face analysis and generative AI, on 3 product lines, while publishing a patent and 5 papers (ICCV, CVPR, ECCV, NIPS, WACV). Co-supervised 4 published PhD intern projects.

Research Assistant in Computer Vision (PT) | Imperial College London | October 2018 – June 2020

Created a dataset of photorealistic high-resolution 3D human faces, automated the Imperial College Light Stage and conducted research projects on photorealistic humans for AR and VR. Published in CVPR, ECCV, TPAMI.

Computer Vision Scientist (PT) | Facesoft | October 2018 – June 2020

Applied R&D and demos on generating photorealistic human avatars, facial recognition and behavioural analysis.

Software Engineering Research Associate (PT) | AUEB Business Analytics Lab | July 2016 – June 2018

Undertaken three projects, under the guidance of Prof. D. Spinellis. Subjects: memory forensics, UNIX security bug smells and data-driven software engineering. Published in ICSE.

Econometrics Research Assistant (PT) | Centre of Planning and Economic Research | August 2014 – February 2015

Performed a linear analysis of the oil market in Greece and indicated anomalies to the Greek Competition Commission.

Technical Consultant Intern | Oracle | March 2017 – May 2017

Customised OAM for 3 customers with Java plug-ins and Servlets. Presented tutorials for Oracle's ML security platform.

Technical Competencies

Programming Skills | Python, PyTorch, PyTorch3D, TensorFlow, UNIX, SQL, git

Tech Skills | GAN, Diffusion Models, Differentiable Rendering, 3D Models, Light Stages, Computer Vision

Achievements

First Place | ECCV 2022 WCPA Challenge: From Face, Body and Fashion to 3D Virtual Avatars, Track II

Perspective Reconstruction of Human Faces by Joint Mesh and Landmark Regression (2,000$ award).

Postgraduate Scholarship 2017-2018 | Hellenic Petroleum

Postgraduate scholarship of £24,000, for studies in Advanced Computing at Imperial College London (1 out of 7 total).

Social Impact Award 2014 | Impact Hub Athens

With Blood-e, a novel e-platform for blood donation (€3,000 award) (1 out of 3 total) (bloode.org).

PhD LSR Award | Imperial College London

Second place award for PhD Late Stage Review at the Department of Computing, Imperial College London (£200).

2 Honorary Distinctions | Athens University of Economics and Business

A) Top 3% on entry exams (2013) and B) 2nd highest average GPA of 9.35 out of 10 (2013-2017).

Co-founded and led Junior Achievement Alumni Greece | June 2013 – February 2017

Entrepreneurship network with more than 200 members, part of an EU group. Co-founded it and was the project manager, organising more than 10 seminars, networking events and contests. (ja-alumni.eu).

Selected Publications

scholar.google.com

Papantoniou F**, Lattas A**, Moschoglou S, Zafeiriou S. Relightify: Relightable 3D Faces from a Single Image via Diffusion Models. International Conference on Computer Vision 2023 (ICCV).

Lattas A, Moschoglou S, Ploumpis S, Gecer B, Deng J, Zafeiriou S. FitMe: Deep Photorealistic 3D Morphable Model Avatars. IEEE/CVF Conference on Computer Vision and Pattern Recognition 2023 (CVPR).

Lattas A, Lin Y, Kannan J, Ozturk E, Filipi L, Guarnera GC, Chawla G, Ghosh A. Practical and Scalable Desktop-based High-Quality Facial Capture. European Conference on Computer Vision 2022 (ECCV Oral).

Miao Y*, **Lattas A***, Deng J, Han J, Zafeiriou S. Physically-Based Face Rendering for NIR-VIS Face Recognition Advances in Neural Information Processing Systems 2022 (NeurIPS).

Li S, Waheed U, Bahshwan M, Wang L, Kalossaka L, Choi J, Kundrak F, **Lattas A**, Ploumpis S, Zafeiriou S, Myant C. A scalable mass customisation design process for 3D-printed respirator mask to combat COVID-19. Rapid Prototyping Journal (2021) (RPJ).

Lattas A, Moschoglou S, Ploumpis S, Gecer B, Ghosh A, Zafeiriou S. AvatarMe++: Facial Shape and BRDF Inference with Photorealistic Rendering-Aware GANs. IEEE Transactions on Pattern Analysis and Machine Intelligence 2021 (TPAMI).

Lattas A, Moschoglou S, Gecer B, Ploumpis S, Triantafyllou V, Ghosh A, Zafeiriou S. AvatarMe: Realistically Renderable 3D Facial Reconstruction. IEEE/CVF Conference on Computer Vision and Pattern Recognition 2020 (CVPR).

Gecer B, **Lattas A**, Ploumpis S, Deng J, Papaioannou A, Moschoglou S, Zafeiriou S. Synthesizing Coupled 3D Face Modalities by Trunk-Branch Generative Adversarial Networks. European Conference on Computer Vision 2020 (ECCV).

Patents

Image processing for diffuse-specular separation. Ghosh A, Kampouris C, **Lattas A,** Zafeiriou S.	US10964099B2	2021
Three-Dimensional Facial Reconstruction. Zafeiriou S, **Lattas A**, Moschoglou S, Ploumpis S.	US20230077187A1	2023