NIKOLAOS ZIOULIS

Research Scientist and Engineer

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A research engineer working at the intersection of computer graphics, computer (3D) vision and machine learning technologies with a focus on immersive / emerging media and live realistic tele-presence technologies spanning across the XR spectrum.

Experience

Oct 13 - now

Centre for Research and Technology Hellas, **Information Technologies Institute**, **Visual Computing Lab**, Thessaloniki, Greece.
Research Associate
SELECTED PROJECTS: **VRTogether**, **Hyper360**, **5G-Media**, **Factory2Fit**, **RePlay**

Education

Jun 12

Aristotle University of Thessaloniki, School of Electrical and Computer Engineering, Thessaloniki, Greece.
Diploma in Electrical & Computer Engineering (Bachelor & Master)

Skills

Computer Graphics	*OpenGL* *Glew/Glfw*	*GLSL* *OptiX*	*Blender* *ImGui*
	Intimate understanding of GPU architectures and programmable 3D rendering pipeline concepts		
Computer Vision	*OpenCV* *Eigen*	*Kinect 2.0* *RealSense*	*g2o* *(nano)flann*
	Very experienced with mesh, point cloud and image processing algorithms.		
Machine Learning	*PyTorch*	*Caffe*	*TensorFlow 2*
	Extensive experience with state-of-the-art CNN architectures, models and training.		
Software Development	*C++ 11/14* *CUDA/Thrust* *MATLAB* *Windows*	*Python* *Unity3D* *Visual Studio* *Linux*	*C#/WPF* *Boost* *VS Code* *Git*
	Solid programming foundation and real-time systems engineering.		
Other Tools	*MS Office* *RabbitMQ*	*LaTeX* *MeshLab*	*Docker* *Web 2.0*
	Familiar with a diverse set of productivity software and other tools.		
Languages	*Greek*	*English*	*German*
	Cultivated great communication skills through heavy international project involvement (tele-conferences, project meetings, conference participation)		
Soft Skills	*Excellent Listener, Dedicated & Motivated, Multi-tasking & Effective Delegation, Team Coordination, Critical Thinking & Problem Solving*		

Publications

2019

Sterzentsenko, V.*, Saroglou, L.*, Chatzitofis, A.*, Thermos, S.*, **Zioulis, N.***, Doumanoglou, A., Zarpalas, D. & Daras, P., "*Self-Supervised Deep Depth Denoising*", IEEE International Conference on Computer Vision ***(ICCV).*** **[project]**

Zioulis, N., Karakottas, A., Zarpalas, D., Alvarez, F.& Daras, P., "*Spherical View Synthesis for Self-Supervised 360º Depth Estimation*". International Conference on 3D Vision ***(3DV)*** **[project]**

Karakottas, A., **Zioulis, N**., Samaras, S., Ataloglou, A., Gkitsas, V., Zarpalas, D., & Daras, P., "*360º Surface Regression with a Hyper-Sphere Loss*". International Conference on 3D Vision ***(3DV)*** **[project]**

Doumanoglou, A.*, Drakoulis, P.*, **Zioulis, N.**, Zarpalas, D., & Daras, P., "*Benchmarking Open-Source Static 3D Mesh Codecs for Immersive Media Interactive Live Streaming*". IEEE Journal on Emerging and Selected Topics in Circuits and Systems ***(JETCAS).***

Alvarez, F., Breitgand, D., Griffin, D., Andriani, P., Rizou, S., **Zioulis, N.**, ... & Phan, T. K. "*An edge-to-cloud virtualized multimedia service platform for 5G networks*". IEEE Transactions on Broadcasting (***TOB***)

Christaki, K., Apostolakis, K. C., Doumanoglou, A., **Zioulis, N.**, Zarpalas, D., & Daras, P., "*Space Wars: An AugmentedVR Game*". International Conference on Multimedia Modeling ***(MMM).*** **Best Demo Award**

2018

Zioulis, N.*, Karakottas, A.*, Zarpalas, D., & Daras, P. "*OmniDepth: Dense depth estimation for indoors spherical panoramas*". European Conference on Computer Vision ***(ECCV).*** **[project]**

Alexiadis, D. S., **Zioulis, N.**, Zarpalas, D., & Daras, P., "*Fast deformable model-based human performance capture and FVV using consumer-grade RGB-D sensors*". Pattern Recognition ***(PR).***

Sterzentsenko, V.*, Karakottas, A.*, Papachristou, A.*, **Zioulis, N.***, Doumanoglou, A., Zarpalas, D., & Daras, P., "*A low-cost, flexible and portable volumetric capturing system*". International Conference on Signal-Image Technology & Internet-Based Systems ***(SITIS)*** **[project]**

Karakottas, A.*, Papachristou, A.*, Doumanoglou, A.*, **Zioulis, N.***, Zarpalas, D., & Daras, P. "*Augmented VR*". IEEE Conference on Virtual Reality and 3D User Interfaces (***IEEE VR***) **[video]**

Papachristou, A., **Zioulis, N.**, Zarpalas, D., & Daras, P., "*Markerless structure-based multi-sensor calibration for free viewpoint video capture*", International Conference on Computer Graphics, Visualization and Computer Vision ***(WSCG).***

Doumanoglou, A., Griffin, D., Serrano, J., **Zioulis, N.**, Phan, T. K., Jiménez, D., ... & Daras, P. "*Quality of experience for 3-d immersive media streaming*." IEEE Transactions on Broadcasting (***TOB***)

Doumanoglou, A., **Zioulis, N.**, Christakis, E., Zarpalas, D., & Daras, P. "*Subjective quality assessment of textured human full-body 3D-reconstructions*." International Conference on Quality of Multimedia Experience (***QoMEX***)

Doumanoglou, A., **Zioulis, N**., Griffin, D., Serrano, J., Phan, T. K., Jiménez, D., ... & Daras, P. "*A system architecture for live immersive 3D-media transcoding over 5G networks*." IEEE International Symposium on Broadband Multimedia Systems and Broadcasting (***BMSB***)

2017

Zioulis, N.*, Papachristou, A.*, Zarpalas, D., & Daras, P., "*Improving Camera Pose Estimation via Temporal EWA Surfel Splatting*". IEEE International Symposium on Mixed and Augmented Reality ***(ISMAR)***

Alexiadis, D. S., Chatzitofis, A., **Zioulis, N.**, Zoidi, O., Louizis, G., Zarpalas, D., & Daras, P. "*An integrated platform for live 3D human reconstruction and motion capturing*". IEEE Transactions on Circuits and Systems for Video Technology ***(TCSVT)***

2016

Zioulis, N., Alexiadis, D., Doumanoglou, A., Louizis, G., Apostolakis, K., Zarpalas, D., & Daras, P. "*3D tele-immersion platform for interactive immersive experiences between remote users*". IEEE International Conference on Image Processing (***ICIP***) **[demo]**