

# 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**

## 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.* , <b>Zioulis, N.*</b> , Doumanoglou, A., Zarpalas, D. & Daras, P., “Self-Supervised Deep Depth Denoising”, IEEE International Conference on Computer Vision ( <b>ICCV</b> ). (to appear) <a href="#">[project]</a>
	<b>Zioulis, N.</b> , Karakottas, A., Zarpalas, D., Alvarez, F.& Daras, P., “Spherical View Synthesis for Self-Supervised 360° Depth Estimation”. International Conference on 3D Vision ( <b>3DV</b> ) (to appear) <a href="#">[project]</a>
	Karakottas, A., <b>Zioulis, N.</b> , Samaras, S., Ataloglou, A., Gkitsas, V., Zarpalas, D., & Daras, P., “360° Surface Regression with a Hyper-Sphere Loss”. International Conference on 3D Vision ( <b>3DV</b> ) (to appear) <a href="#">[project]</a>
	Doumanoglou, A.* , Drakoulis, P.* , <b>Zioulis, N.</b> , 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 ( <b>JETCAS</b> ).
	Alvarez, F., Breitgand, D., Griffin, D., Andriani, P., Rizou, S., <b>Zioulis, N.</b> , ... & Phan, T. K. “An edge-to-cloud virtualized multimedia service platform for 5G networks”. IEEE Transactions on Broadcasting ( <b>TOB</b> )
2018	Christaki, K., Apostolakis, K. C., Doumanoglou, A., <b>Zioulis, N.</b> , Zarpalas, D., & Daras, P., “Space Wars: An AugmentedVR Game”. International Conference on Multimedia Modeling ( <b>MMM</b> ). <b>Best Demo Award</b>
	<b>Zioulis, N.*</b> , Karakottas, A.* , Zarpalas, D., & Daras, P. “OmniDepth: Dense depth estimation for indoors spherical panoramas”. European Conference on Computer Vision ( <b>ECCV</b> ). <a href="#">[project]</a>
	Alexiadis, D. S., <b>Zioulis, N.</b> , Zarpalas, D., & Daras, P., “Fast deformable model-based human performance capture and FVV using consumer-grade RGB-D sensors”. Pattern Recognition ( <b>PR</b> ).
	Sterzentsenko, V.* , Karakottas, A.* , Papachristou, A.* , <b>Zioulis, N.*</b> , Doumanoglou, A., Zarpalas, D., & Daras, P., “A low-cost, flexible and portable volumetric capturing system”. International Conference on Signal-Image Technology & Internet-Based Systems ( <b>SITIS</b> ) <a href="#">[project]</a>
	Karakottas, A.* , Papachristou, A.* , Doumanoglou, A.* , <b>Zioulis, N.*</b> , Zarpalas, D., & Daras, P. “Augmented VR”. IEEE Conference on Virtual Reality and 3D User Interfaces ( <b>IEEE VR</b> ) <a href="#">[video]</a>
2017	Papachristou, A., <b>Zioulis, N.</b> , Zarpalas, D., & Daras, P., “Markerless structure-based multi-sensor calibration for free viewpoint video capture”, International Conference on Computer Graphics, Visualization and Computer Vision ( <b>WSCG</b> ).
	Doumanoglou, A., Griffin, D., Serrano, J., <b>Zioulis, N.</b> , Phan, T. K., Jiménez, D., ... & Daras, P. “Quality of experience for 3-d immersive media streaming.” IEEE Transactions on Broadcasting ( <b>TOB</b> )
	Doumanoglou, A., <b>Zioulis, N.</b> , Christakis, E., Zarpalas, D., & Daras, P. “Subjective quality assessment of textured human full-body 3D-reconstructions.” International Conference on Quality of Multimedia Experience ( <b>QoMEX</b> )
	Doumanoglou, A., <b>Zioulis, N.</b> , 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 ( <b>BMSB</b> )
2016	<b>Zioulis, N.*</b> , Papachristou, A.* , Zarpalas, D., & Daras, P., “Improving Camera Pose Estimation via Temporal EWA Surfel Splatting”. IEEE International Symposium on Mixed and Augmented Reality ( <b>ISMAR</b> )
	Alexiadis, D. S., Chatzitofis, A., <b>Zioulis, N.</b> , 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 ( <b>TCSVT</b> )
	<b>Zioulis, N.</b> , 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 ( <b>ICIP</b> ) <a href="#">[demo]</a>