



IMAGE AND VISION COMPUTING
SPECIAL ISSUE ON
“3D MESH PROCESSING AND GENERATION
IN THE AGE OF DEEP LEARNING”

1. Special issue title. 3D Mesh Processing and Generation in the Age of Deep Learning

2. Title of the journal. Image and Vision Computing

3. Description of the special issue proposal. Three-dimensional (3D) meshes continue to serve as a core representation in visual computing, supporting a wide range of applications in scientific visualization, computer graphics, computer vision, virtual and augmented reality, and digital twin technologies. The rapid progress of deep learning has transformed how 3D data is processed, analyzed, and generated. Modern neural networks can now capture complex geometric priors, generate high-fidelity shapes, repair and simplify meshes, and enable intelligent 3D content creation with unprecedented realism and scalability.

This special issue of the Image and Vision Computing seeks to highlight the latest research at the intersection of 3D mesh processing and deep learning. It welcomes original, high-quality contributions that introduce new theories, propose innovative methods, or demonstrate practical applications revealing the transformative potential of deep learning for advancing 3D geometry and mesh understanding.

We are soliciting original contributions that address a wide range of theoretical and practical issues *for 3D meshes*, including, but not limited to:

- ▷ Neural representations and implicit functions for 3D geometry
- ▷ Deep 3D mesh generation, completion, and reconstruction
- ▷ Learning-based mesh simplification, denoising, and remeshing
- ▷ Mesh segmentation, classification, and correspondence learning
- ▷ Neural mesh editing, deformation, and animation
- ▷ Large-scale datasets and benchmarks for 3D mesh deep learning
- ▷ Generative models (GANs, diffusion models, auto-regressive models) for 3D mesh synthesis
- ▷ Differentiable rendering and inverse graphics for mesh learning
- ▷ Topology-aware neural network architectures
- ▷ Multi-modal 3D mesh learning from text, images, or video
- ▷ Mesh quality metrics, fairness, and bias in 3D data generation
- ▷ Applications in visualization, simulation, AR/VR, and industrial design

4. Schedule.

- ▷ Original submissions due: March 15, 2027
- ▷ First round of reviews completed, and decisions sent to authors: June 30, 2027
- ▷ Revised manuscripts due: September 15, 2027
- ▷ Final acceptance decision: November 15, 2027
- ▷ Special issue publication: 2028

5. Guest Editor’s information.

Yu-Kun Lai
Full Professor
Cardiff University, Wales, UK
Yukun.Lai@cs.cardiff.ac.uk
<https://yukunlai.github.io>

Lei Li
Assistant Professor
University of Virginia, USA
leili@virginia.edu
<http://craigleili.github.io/>

Yiyi Liao
Assistant Professor
Zhejiang University, China
yiyi.liao@zju.edu.cn
<https://yiyiliao.github.io>

Olivier Lézoray (Lead Guest Editor)
Full Professor
University of Caen Normandy, France
olivier.lezoray@unicaen.fr
<https://lezoray.users.greyc.fr>