

1. Record Nr.	UNISA996464484503316
Titolo	Advances in computer graphics : 38th Computer Graphics International Conference, CGI 2021, virtual event, September 6-10, 2021, proceedings // edited by Nadia Magnenat-Thalmann [and six others]
Pubbl/distr/stampa	Cham, Switzerland : , : Springer, , [2021] ©2021
ISBN	3-030-89029-5
Descrizione fisica	1 online resource (717 pages)
Collana	Lecture Notes in Computer Science ; ; v.13002
Disciplina	006.6
Soggetti	Computer graphics
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Intro -- Preface -- Organization -- Contents -- Computer Animation -- Temporal Parameter-Free Deep Skinning of Animated Meshes -- 1 Introduction -- 2 Related Work -- 3 Temporal Deep Skinning -- 3.1 Training and Test Datasets -- 3.2 Transformation and Weight Optimization -- 3.3 Measuring the Error -- 3.4 Building and Tuning a Neural Network for Weight Prediction -- 4 Experimental Evaluation of Deep Skinning -- 4.1 Quantitative Results -- 4.2 Visual Quality Evaluation Results -- 4.3 Discussion and Applications -- 5 Conclusions -- A Appendix A -- B Appendix B -- C Appendix C -- References -- The Impact of Animations in the Perception of a Simulated Crowd -- 1 Introduction -- 2 Related Work -- 2.1 Appearance and Motion of Virtual Humans -- 2.2 Crowd Simulation -- 3 Experiment Design -- 3.1 Stimuli Creation -- 3.2 Participants -- 3.3 Hypothesis -- 3.4 Statistical Analysis -- 4 Results -- 4.1 Realism of Simulated Crowds (H1) -- 4.2 Realism of Trajectories (H2) -- 4.3 Realism of Animation (H3) -- 5 Discussion -- 6 Conclusions and Future Work -- References -- Computer Vision -- Virtual Haptic System for Shape Recognition Based on Local Curvatures -- 1 Introduction -- 2 Related Work -- 3 Data Capture -- 3.1 Stimuli -- 3.2 Data Collection -- 4 Classifiers -- 4.1 Probability Density Function Based -- 4.2 Bayesian XGBoost -- 5 Results -- 5.1 Probability Density Function Based -- 5.2 Bayesian XGBoost -- 6 Discussion -- 7 Conclusions and Future Work --

References -- Stable Depth Estimation Within Consecutive Video Frames -- 1 Introduction -- 2 Related Work -- 3 Method -- 3.1 Temporal Stability Loss -- 3.2 Inconsistency Check and Self-discovered Mask -- 3.3 De-scaled Geometry Consistency Loss -- 3.4 Network Architecture -- 4 Experiments -- 4.1 Training Details -- 4.2 Comparisons and Ablation Study -- 5 Conclusions and Future Work -- References.

Progressive Multi-scale Reconstruction for Guided Depth Map Super-Resolution via Deep Residual Gate Fusion Network -- 1 Introduction -- 2 Related Work -- 3 Proposed Method -- 3.1 Overview -- 3.2 Color Information Extraction Branch -- 3.3 Depth Map Super-Resolution Branch -- 3.4 Loss Function -- 4 Experimental Results -- 4.1 Implementation Details -- 4.2 Quantitative Evaluation -- 4.3 Qualitative Evaluation -- 5 Conclusion -- References -- SE_EDNet: A Robust Manipulated Faces Detection Algorithm -- 1 Introduction -- 2 Detection Algorithms -- 2.1 Framework -- 2.2 Network Structure -- 2.3 Image Residuals in YCrCb Color Space -- 3 Experiment Analysis -- 3.1 Setup -- 3.2 Comparison Experiment -- 3.3 Robustness Performance Analysis -- 4 Conclusion -- References -- PointCNN-Based Individual Tree Detection Using LiDAR Point Clouds -- 1 Introduction -- 2 Method -- 2.1 Overview -- 2.2 Build CHM -- 2.3 Generate Detection Sample -- 2.4 Sample Classifier -- 2.5 Tree Stagger Analysis -- 3 Results -- 3.1 Detection Result -- 3.2 Comparison with Related Research -- 4 Conclusion -- References -- Variance Weight Distribution Network Based Noise Sample Learning for Robust Person Re-identification -- 1 Introduction -- 2 Related Work -- 2.1 Deep Person Re-ID Models -- 2.2 Person Re-ID with Sample Noise -- 2.3 Robust Deep Learning with Label Noise -- 2.4 Feature Distribution Modelling -- 3 Methodology -- 3.1 Conventional Baseline Model -- 3.2 Feature Uncertainty Distribution Learning -- 3.3 Rectifying Label Learning -- 3.4 Overall Classification Loss -- 4 Experiments -- 4.1 Datasets and Settings -- 4.2 Implementation Details -- 4.3 Comparison with the State-of-the-Arts -- 5 Conclusion -- References -- Monocular Dense SLAM with Consistent Deep Depth Prediction -- 1 Introduction -- 2 Related Work -- 2.1 Monocular Visual SLAM -- 2.2 Dense Mapping.

2.3 SLAM with Deep Depth Prediction -- 3 System Overview -- 4 Local Mapping with Depth Refinement -- 4.1 2D Image Analysis -- 4.2 3D Outlier Detection -- 5 Global Dense Mapping with Egomotion Constraints -- 6 Evaluation -- 6.1 Qualitative Results -- 6.2 Quantitative Results -- 7 Conclusion -- References -- 3D Shape-Adapted Garment Generation with Sketches -- 1 Introduction -- 2 Related Work -- 3 The Proposed Method -- 3.1 Overview of the Network Architecture -- 3.2 Sketch Encoder and Body Shape Encoder -- 3.3 Fully Convolutional Mesh Decoder -- 3.4 Loss Function -- 4 Experiments -- 4.1 Dataset Construction -- 4.2 Results -- 5 Conclusion -- References -- Geometric Computing -- Light-Weight Multi-view Topology Consistent Facial Geometry and Reflectance Capture -- 1 Introduction -- 2 Related Work -- 2.1 High-Quality Facial Geometry -- 2.2 Facial Appearance Capture -- 3 System Overview -- 4 Proposed Method -- 4.1 Landmarks Based Initialization -- 4.2 Mesh Deformation -- 4.3 Multi-view Based Diffuse-Specular Separation -- 4.4 Surface Normal and BRDF Estimation -- 4.5 Finer Geometry Optimization -- 5 Results -- 6 Conclusion -- References -- Real-Time Fluid Simulation with Atmospheric Pressure Using Weak Air Particles -- 1 Introduction -- 2 Related Work -- 2.1 Particle-Based Fluid Simulation -- 2.2 Fluid Simulation with Atmospheric Pressure -- 3 Background -- 4 Weak Air Particles -- 5 Surface Force Model -- 5.1 Density-Related

Atmospheric Pressure Force -- 5.2 Surface Tension Force -- 6
Implementation -- 7 Results -- 8 Conclusion and Future Work --
References -- Human Poses and Gestures -- Reinforcement Learning
for Quadruped Locomotion -- 1 Introduction -- 1.1 Objectives -- 1.2
Analytic Reviews on Previous Work -- 2 Methodology -- 2.1 Modelling
Quadruped Locomotion -- 2.2 Reinforcement Learning -- 3 Experiment
and Comparative Evaluation.
4 Discussion and Conclusion -- References -- Partially Occluded
Skeleton Action Recognition Based on Multi-stream Fusion Graph
Convolutional Networks -- 1 Introduction -- 2 Related Work -- 2.1
Manual Feature Extraction Method -- 2.2 RNN/CNN-Based Method --
2.3 GCN-Based Method -- 3 Proposed Method -- 3.1 Multimodal
Feature Extraction -- 3.2 Spatial-Temporal Graph Convolutional
Network -- 3.3 Occlusion Sensitive Multi-stream Fusion Networks -- 4
Experiments -- 4.1 Datasets -- 4.2 Implementation Details -- 4.3
Experimental Results -- 5 Conclusion -- References -- Social-Scene-
Aware Generative Adversarial Networks for Pedestrian Trajectory
Prediction -- 1 Introduction -- 2 Related Work -- 2.1 Crowd Interaction
-- 2.2 Multimodal Trajectory Prediction -- 3 Method -- 3.1 The
Formulation for Pedestrian Trajectory Prediction -- 3.2 Scene Module
-- 3.3 Social Module -- 3.4 Generative Adversarial Networks Module --
4 Experiments -- 4.1 Evaluation Metrics and Baselines -- 4.2
Quantitative Evaluations -- 4.3 Qualitative Evaluations -- 5 Conclusion
-- References -- Image Processing -- Cecid Fly Defect Detection in
Mangoes Using Object Detection Frameworks -- 1 Introduction -- 2
Towards Automatic Defect Detection in Agricultural Produce -- 3
Methodology -- 3.1 Image Acquisition -- 3.2 Data Preparation -- 3.3
Object Detection Frameworks -- 4 Experimental Results -- 5
Conclusion and Future Works -- References -- Twin-Channel Gan:
Repair Shape with Twin-Channel Generative Adversarial Network and
Structural Constraints*-6pt -- 1 Introduction -- 2 Related Work -- 3
Method -- 3.1 Geometry Information Completion -- 3.2 Structure
Information Optimization -- 3.3 Fine-Tune -- 4 Experiments and
Evaluation -- 4.1 Implementation Details -- 4.2 Shape Repair -- 4.3
Results and Discussion -- 5 Limitation and Future Work -- 6
Conclusion -- References.
CoPaint: Guiding Sketch Painting with Consistent Color and Coherent
Generative Adversarial Networks -- 1 Introduction -- 2 Related Work
-- 2.1 Generative Adversarial Networks (GANs) -- 2.2 Colorization -- 3
Methods -- 3.1 Overview -- 3.2 Dataset -- 3.3 Network Structure --
3.4 Loss Function -- 4 Experiments -- 4.1 Training Strategy -- 4.2
Dataset Generation -- 4.3 Analysis on Angles -- 5 Evaluation -- 5.1
Quality Analysis -- 5.2 Color Consistency Analysis -- 5.3 Ablation
Studies -- 6 Conclusions and Limitations -- References -- Multi-
Stream Fusion Network for Multi-Distortion Image Super-Resolution --
1 Introduction -- 2 Method -- 2.1 Multi-Stream Fusion -- 2.2 Fusion
Module -- 2.3 Deep Supervision -- 3 Experimental Results -- 3.1 Data
Preprocessing and Network Training -- 3.2 Model Analysis -- 3.3
Results Analysis -- 4 Conclusion -- References -- Generative Face
Parsing Map Guided 3D Face Reconstruction Under Occluded Scenes --
1 Introduction -- 2 Related Works -- 2.1 Generic Face Reconstruction
-- 2.2 Face Image Synthesis -- 3 Our Approach -- 3.1 Landmark
Prediction Task -- 3.2 Face Parsing Map Generation -- 3.3 Face Image
Synthesis with GAN -- 3.4 Camera and Illumination Model -- 3.5 Loss
Function of 3D Reconstruction -- 4 Implementation Details -- 5
Experimental Results -- 5.1 Qualitative Comparisons with Recent Works
-- 5.2 Quantitative Comparison -- 6 Conclusions -- References --
Compact Double Attention Module Embedded CNN for Palmprint

Recognition -- 1 Introduction -- 2 Related Work -- 2.1 CNN-Based
Palmpoint Recognition Methods -- 2.2 Attention Mechanism -- 3 The
Proposed Method -- 3.1 The Framework of CDAM-Net -- 3.2 Double
Attention Module (DAM) -- 4 Experiments -- 4.1 Databases -- 4.2
Palmpoint Identification Results -- 4.3 Effectiveness of the DAM -- 4.4
Parameter Analysis -- 5 Conclusion -- References.
M2M: Learning to Enhance Low-Light Image from Model to Mobile
FPGA.
