

## Workshops – Sunday 28 November

Griffith University, Gold Coast Campus G42 2.17 / Online

8:30-9:00	Registration
9:00-10:30	<b>Workshop 1</b> <b>Deep Learning with Images using MATLAB - a Hands-on Workshop – Part 1</b> <i>Dr Emmanuel Blanchard (MathWorks)</i>
10:30-10:45	Morning Tea
10:45-12:00	<b>Workshop 1</b> <b>Deep Learning with Images using MATLAB - a Hands-on Workshop – Part 2</b> <i>Dr Emmanuel Blanchard (MathWorks)</i>
12:00-13:00	Lunch
13:00-15:00	<b>Workshop 2</b> <b>Deep Learning for Medical Image Analysis</b> <i>Dr Yasmeen George (Deakin University); Dr Syed Islam (Edith Cowan University)</i>
15:00-15:15	Afternoon Tea
15:15-16:45	<b>Workshop 3</b> <b>Fundamentals of Deep Learning – Cloud-based GPU Deployment and Testing – Part 1</b> <i>Dr Abdul Bais (University of Regina); Dr Syed Afaq Shah (Murdoch University)</i>
16:45-17:00	Break
17:00-18:15	<b>Workshop 3</b> <b>Fundamentals of Deep Learning – Cloud-based GPU Deployment and Testing – Part 2</b> <i>Dr Abdul Bais (University of Regina); Dr Syed Afaq Shah (Murdoch University)</i>

## Main Conference Day 1 – Monday 29 November

Hilton Surfers Paradise Ballroom / Online

8:00-8:45	Registration
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8:45-9:00	<b>Conference Opening</b>
9:00-10:00	<b>Keynote 1</b> <b>What We've Learned about Creating Accurate Image Models Quickly and Easily</b> <i>Jeremy Howard (fast.ai, Australia)</i>
10:00-10:30	Morning Tea – Ballroom Pre-Function Area
10:30-12:10	<b>Oral Session 1 – Award Candidate Session</b>
10:30-10:50	<b>Quantum Annealing Formulation for Binary Neural Networks</b> <i>Michele Sasdelli (The University of Adelaide); Tat-Jun Chin (The University of Adelaide)</i>
10:50-11:10	<b>Semi-Supervised 3D Hand Shape and Pose Estimation with Label Propagation</b> <i>Samira Kaviani (Australian National University); Amir Rahimi (Australian National University); Richard Hartley (Australian National University)</i>
11:10-11:30	<b>View Synthesis with Multi-scale Cost Aggregation and Confidence Prior</b> <i>Qi Wu (Northwestern Polytechnical University); Xue Wang (Northwestern Polytechnical University); Qing Wang (Northwestern Polytechnical University and Pazhou Lab)</i>
11:30-11:50	<b>Learning To Segment Dominant Object Motion From Watching Videos</b> <i>Sahir Shrestha (Australian National University); Mohammad Ali Armin (CSIRO(Data61)); Hongdong Li (Australian National University); Nick Barnes (Australian National University)</i>
11:50-12:10	<b>A Seq2seq-based Model with Global Semantic Context for Scene Text Recognition</b> <i>Yili Huang (Shanghai Jiaotong University); shilin wang (Shanghai Jiaotong University); Chengyu Gu (Shanghai Jiao Tong University); Zheng Huang (Shanghai Jiao Tong University); Kai Chen Shanghai Jiao Tong University)</i>
12:10-13:10	Group photo and Lunch (Catch Restaurant)
13:10-14:10	<b>Keynote 2</b> <b>Using autonomous drones to map and explore underground mines</b> <i>Stefan Hrabar, Emesent, Australia</i>
14:10-14:50	<b>Poster Session 1 – 3-Minutes Spotlight</b> <b>Semantic Attribute Enriched Storytelling from a Sequence of Images</b> <i>Zainy M. Malakan (The University of Western Australia); Ghulam Mubashar Hassan (The University of Western Australia); Mohammad A. A. K. Jalwana (The University of Western Australia); Nayyer Afaq (The</i>

*University of Western Australia); Ajmal Mian (The University of Western Australia)*

### **Efficient DNN-Based Classification of Whole Slide Gram Stain Images for Microbiology**

*Sarah Alhammad (The University of Queensland); Brian C Lovell (The University of Queensland); Kun Zhao (The University of Queensland); Sarah Alhammad (The University of Queensland)*

### **Single-image object classification based on illuminette construction from shadow imaging**

*Lyle D Collins (DSTG); Antonio Robles-Kelly (Deakin University)*

### **Resource Constrained Human Presence Detection for Indirect Time-of-Flight Sensors**

*Caterina Nahler (Graz University of Technology); Hannes Plank (Infineon Technologies Austria AG); Norbert Druml (Infineon); Chrisitan Steger (Technische Universität Graz)*

### **Deep Learning Based Stereo Cost Aggregation on a Small Dataset**

*Rongcheng Wu (UNSW); Changming Sun (CSIRO Data61); Zhaoying Liu (Beijing University of Technology); Arcot Sowmya (UNSW)*

### **Fully Convolutional Neural Network with Relation Aware Context Information for Image Parsing**

*Basim Azam (Central Queensland University); Ranju Mandal (Central Queensland University); Brijesh Verma (Central Queensland University)*

### **Indoor Semantic Scene Understanding using Multi-modality Fusion**

*Muraleekrishna Gopinathan (Edith Cowan University); Giang Ha Truong (Edith Cowan University); Jumana Abu-Khalaf (Edith Cowan University)*

### **Automatic Sheep Behaviour Analysis using Mask R-CNN**

*JingSong Xu (University of Technology Sydney); Qiang Wu (University of Technology Sydney); Jian Zhang (UTS); Amy Tait (University of New England)*

### **Improved Spatio-temporal Action Localization for Surveillance Videos**

*Morgan Liang (University of New South Wales); Xun Li (University of New South Wales); Sandersan Onie (University of New South Wales); Mark Larsen (University of New South Wales); Arcot Sowmya (University of New South Wales)*

### **A Multi-View DCNN Based Method for Breast Cancer Screening**

*Nouha Derbel (University of Sfax); Hédi TMAR (University of Sfax); Adel Mahfoudhi (University of Sfax)*

	<p><b>EAR-NET: Error Attention Refining Network For Retinal Vessel Segmentation</b></p> <p><i>Jun Wang (King's College London); Yang Zhao (The University of Adelaide); Linglong Qian (King's College London); Xiaohan Yu (Griffith University); Yongsheng Gao (Griffith University)</i></p>
14:50-15:05	<b>Poster Session 1 – Q&amp;A</b>
14:50-15:20	Afternoon Tea – Ballroom Pre-Function Area
15:20-16:35	<b>Oral Session 2 – Remote Sensing</b>
15:20-15:35	<p><b>High Definition LiDAR mapping of Perth CBD</b></p> <p><i>Muhammad Ibrahim (The University of Western Australia); Naveed Akhtar (The University of Western Australia); Mohammad Jalwana (The University of Western Australia); Michael Wise (The University of Western Australia); Ajmal Mian (The University of Western Australia)</i></p>
15:35-15:50	<p><b>Reduction of Feature Contamination for Hyper-Spectral Image Classification</b></p> <p><i>Sutharsan Mahendren (Queensland University of Technology); Tharindu Fernando (Queensland University of Technology); Sridha Sridharan (Queensland University of Technology); Peyman Moghadam (CSIRO); Clinton Fookes (Queensland University of Technology)</i></p>
15:50-16:05	<p><b>Cross-Modality Visual Question Answering for Remote Sensing</b></p> <p><i>RAFAEL FELIX (The University of Adelaide); Boris Repasky (Lockheed Martin); Reza Zolfaghari (Defence Science and Technology); Samuel Hodge (The University of Adelaide); Ehsan M Abbasnejad (The University of Adelaide); Jamie Sherrah (AIML)</i></p>
16:05-16:20	<p><b>AF-Net: All-scale Feature Fusion Network for Road Extraction from Remote Sensing Images</b></p> <p><i>Shide Zou (Nanjing University of Science and Technology); Fengchao Xiong (Nanjing University of Science and Technology); Haonan Luo (Nanjing University of Science and Technology); Jianfeng Lu (Nanjing University of Science and Technology); Yuntao Qian (Zhejiang University)</i></p>
16:20-16:35	<p><b>Burnt Forest Estimation from Sentinel-2 Imagery of Australia using Unsupervised Deep Learning</b></p> <p><i>Nosheen Abid (Luleå University of Technology); Faisal Shafait (National University of Sciences and Technology); Imran Malik (National University of Sciences and Technology); Muhamad Shahzad (SEECs); Haider Ali (JHU); Muhammad Mohsin Ghaffar (TU Kaiserslautern); Norbert Wehn (TU Kaiserslautern); Christian Weis (DFKI)</i></p>
16:35-17:15	<p><b>Poster Session 2 – 3-Minutes Spotlight</b></p> <p><b>GuideNet: Learning Inter-Vertebral Guides in DXA Lateral Spine Images</b></p>

Zaid Ilyas (Edith Cowan University); Naeha Sharif (Edith Cowan University); John Schousboe (University of Minnesota); Joshua Lewis (Edith Cowan University); David Suter (Edith Cowan University); Syed Zulqarnain Gilani (Edith Cowan University)

#### **Seagrass Detection from Underwater Digital Images using Faster R-CNN with NASNet**

Md Kislunoman (Edith Cowan University); Syed Islam (Edith Cowan University); Jumana Abu-Khalaf (Edith Cowan University); Paul Lavery (Edith Cowan University)

#### **ODAR: A Lightweight Object Detection Framework for Autonomous Driving Robots**

Hoang Duong Le (Griffith University); Huynh Trung (Griffith University); Minh Tâm Phạm (Hanoi University of Science and Technology); Gwangzeen Ko (Electronics and Telecommunications Research Institute); Jung Ick Moon (Electronics and Telecommunications Research Institute); Jun Jo (Griffith University); Quoc Viet Hung Nguyen (Griffith University)

#### **Self-supervision, Remote Sensing and Abstraction: Representation Learning across 3 million locations**

Sachith Seneviratne (University of Melbourne); Kerry Nice (University of Melbourne); Jasper Wijnands (The University of Melbourne); Jason H Thompson (University of Melbourne); Mark Stevenson (The University of Melbourne, Transport, Health and Urban Design Research Hub)

#### **Building Boundary Extraction from LiDAR Point Cloud Data**

Emon Kumar Dey (Griffith University); Mohammad Awrangjeb (Griffith University, Australia); Fayez Tarsha Kurdi (University of Southern Queensland); Bela Stantic (Griffith University)

#### **Extraction of Forest Power lines From LiDAR point cloud Data**

Nosheen Munir (Griffith University); Mohammad Awrangjeb (Griffith University, Australia); Bela Stantic (Griffith University)

#### **Detection of Malleefowl Mounds from Point Cloud Data**

Nahida Parvin (Federation University); Guojun Lu (Federation University); Singaray Florentine (Federation University); Mohammad Awrangjeb (Griffith University); Manzur Murshed (Federation University); Marc Irvin (Department of Planning, Industry and Environment)

#### **IoT-based Plant Health Analysis using Optical Sensors in Precision Agriculture**

Hamid Bagha (Swinburne University of Technology); Ali Yavari (Swinburne University of Technology); Dimitrios Georgakopoulos (Swinburne University of Technology)

#### **Mask-Guided Feature Extraction and Augmentation for Ultra-Fine-Grained Visual Categorization**

	<p><i>Zicheng Pan (Griffith University); Xiaohan Yu (Griffith University); Miaohua Zhang (Griffith University); Yongsheng Gao (Griffith University)</i></p> <p><b>Social E-commerce Tax Evasion Detection: Using Multi-modal Deep Neural Networks</b></p> <p><i>Lelin Zhang (University of Technology Sydney); Xi Nan (The University of Sydney); Eva Huang (The University of Sydney); Sidong Liu (Macquarie University)</i></p> <p><b>Multi-Stratification Feature Selection for Multiple Brain regions application</b></p> <p><i>Lin Zhang (The University of Sydney); Bowen Xin (The University of Sydney); Shaozhen Yan (Capital Medical University); Chaojie Zheng (United Imaging Healthcare Group Co., Ltd); Yun Zhou (United Imaging Healthcare Group Co., Ltd); Jie Lu (Capital Medical University); Xiuying Wang (The University of Sydney)</i></p> <p><b>QuantYOLO: A High-Throughput and Power-Efficient Object Detection Network for Resource and Power Constrained UAVs</b></p> <p><i>Muhammad Gohar Javed (National University of Sciences and Technology); Minahil Raza (National University of Sciences and Technology); Muhammad Mohsin Ghaffar (TU Kaiserslautern); Christian Weis (TU Kaiserslautern); Faisal Shafait (National University of Sciences and Technology); Norbert Wehn (TU Kaiserslautern); Muhammad Shahzad (Technical University of Munich)</i></p>
17:15-17:30	<b>Poster Session – 2 Q&amp;A</b>
18:00-20:00	<b>Welcome Reception – Ballroom Pre-Function Area</b>

## Main Conference Day 2 – Tuesday 30 November

### Hilton Surfers Paradise Ballroom / Online

8:30-9:00	Registration
9:00-10:00	<p><b>Keynote 3</b></p> <p><b>Computer and Robot Vision</b></p> <p><i>Professor Mohammad Bennamoun, The University of Western Australia, Australia</i></p>
10:00-10:30	Morning Tea – Ballroom Pre-Function Area
10:30-11:50	<b>Oral Session 3 – Medical Imaging</b>
10:30-10:45	<b>Brain MRI Motion Artifact Reduction using 3D Conditional Generative Adversarial Networks on Simulated Motion</b>

	<p><i>Mina Ghaffari (Macquarie University); Kamlesh Pawar (Monash University); Ruth A Oliver (Macquarie University); Atul Minhas (Macquarie University)</i></p>
10:45-11:00	<p><b>Two-stage U-Net++ for Medical Image Segmentation</b></p> <p><i>Abdulla Al Suman (University of New South Wales); Shubham Sarda (Indian Institute of Technology); Md Asikuzzaman (University of New South Wales); Alexandra Louise Webb (Australian National University); Diana Perriman (The Canberra Hospital); Murat Tahtali (University of New South Wales); Antonio Di Ieva (Macquarie University); Mark Pickering (University of New South Wales)</i></p>
11:00-11:15	<p><b>Slim-YOLO: A Simplified Object Detection Model for the Detection of Pigmented Iris Freckles as a Potential Biomarker for Cutaneous Melanoma</b></p> <p><i>Dilmi Nu Naranpanawa (The University of Queensland); Yanyang Gu (The University of Queensland); Shekhar S Chandra (University of Queensland); Peter Soyer (); Brigid Betz-Stablein (The University of Queensland Diamantina Institute); Rick Sturm (The University of Queensland Diamantina Institute); Anders Eriksson (University of Queensland )</i></p>
11:15-11:30	<p><b>OCT Retinal Image-To-Image Translation: Analysing the Use of CycleGAN to Improve Retinal Boundary Semantic Segmentation</b></p> <p><i>Ignacio A Viedma Escalona (Queensland University of Technology); David Alonso-Caneiro (Queensland University of Technology); Scott Read (Queensland University of Technology); Michael Collins (Queensland University of Technology)</i></p>
11:30-11:45	<p><b>Resetting the Baseline: CT-Based COVID-19 Diagnosis with Deep Transfer Learning is not as Accurate as Widely Thought</b></p> <p><i>Fouzia Altaf (Edith Cowan University); Syed Islam (Edith Cowan University); Naveed Akhtar (The University of Western Australia)</i></p>
11:50-13:00	Lunch – Catch Restaurant
13:00-13:45	<b>Oral Session 4 – Machine Learning</b>
13:00-13:15	<p><b>Automatic Pruning for Quantized Neural Networks</b></p> <p><i>Luis Guerra (Monash University); Tom Drummond (University of Melbourne)</i></p>
13:15-13:30	<p><b>Streaming Multi-layer Ensemble Selection using Dynamic Genetic Algorithm</b></p> <p><i>Vu Anh Luong (Griffith University); Thanh Tien Nguyen (Robert Gordon University); Alan Liew (Griffith University)</i></p>
13:30-13:45	<p><b>License Plate Detection and Recognition System for All Types of Bangladeshi Vehicles Using Multi-step Deep Learning Model</b></p>

	<p><i>Homaira Huda Shomee (BRAC University); Ataher Sams (Bangladesh University of Engineering and Technology)</i></p>
<p>13:45-14:25</p>	<p><b>Poster Session 3 – 3-Minutes Spotlight</b></p> <p><b>Three-Dimensional Tumour Microenvironment Reconstruction and Tumour-Immune Interactions’ Analysis</b></p> <p><i>Panagiotis Barmpoutis (University College London); Hamzeh Kayhanian (University College London); William Waddingham (University College London); Daniel Alexander (University College London); Marnix Jansen (University College London)</i></p> <p><b>Texture Enhanced Statistical Region Merging with Application to Automatic Knee Bones Segmentation from CT</b></p> <p><i>Michael Howes (Creative Lighting); Mariusz Bajger (Flinders University); Gobert Lee (Flinders University); Francesca Bucci (Flinders University); Saulo Martelli (Queensland University of Technology)</i></p> <p><b>HEp-2 Specimen Cell Detection and Classification Using Very Deep Convolutional Neural Networks-Based Cell Shape</b></p> <p><i>Khamael A Al-Dulaimi (Queensland University of Technology); Brandon Jorgensen (Queensland University of Technology); Jasmine Banks (Queensland University of Technology)</i></p> <p><b>Elimination of Central Artefacts of L-SPECT with Modular Partial Ring Detectors by Shifting Center of Scanning</b></p> <p><i>Manu Francis (University of New South Wales); Murat Tahtali (University of New South Wales); Mark Pickering (University of New South Wales)</i></p> <p><b>Multi-Dataset Benchmarks for Masked Identification using Contrastive Representation Learning</b></p> <p><i>Sachith H Seneviratne (University of Melbourne); Nuran R Kasthuriarachchi (University of Moratuwa); Sanka Rasnayaka (National University of Singapore)</i></p> <p><b>Protecting Deep Cerebrospinal Fluid Cell Image Processing Models with Backdoor and Semi-Distillation</b></p> <p><i>Fangqi Li (Shanghai Jiaotong University); Shilin Wang (Shanghai Jiaotong University); Zhenhai Wang (Ningxia Medical University General Hospital)</i></p> <p><b>Overlapping Cell Nuclei Segmentation in Digital Histology Images using Intensity-based Contours</b></p> <p><i>Md Shamim Hossain (Edith Cowan University); Leisa Armstrong (Edith Cowan University); Jumana Abu-Khalaf (Edith Cowan University); David Cook (Edith Cowan University); Pauline Zaenker (Edith Cowan University)</i></p> <p><b>Image Data Augmentation for Improving Performance of Deep Learning-Based Model in Pathological Lung Segmentation</b></p>



	<p><i>Md Shariful Alam (University of New South Wales); Arcot Sowmya (University of New South Wales); Dadong Wang (CSIRO)</i></p> <p><b>Use of Uncertainty Quantification as a Surrogate for Layer Segmentation Error in Stargardt’s Disease Retinal OCT Images</b></p> <p><i>David Alonso-Caneiro (Queensland University of Technology); Jason Kugelman (Queensland University of Technology); Janelle Tong (Centre for Eye Health); Michael Kalloniatis (University of New South Wales); Fred Chen (Lions Eye Institute); Scott Read (Queensland University of Technology); Michael Collins (Queensland University of Technology)</i></p> <p><b>OCT Chorio-Retinal Segmentation with Adversarial Loss</b></p> <p><i>Jason Kugelman (Queensland University of Technology); David Alonso-Caneiro (Queensland University of Technology); Scott Read (Queensland University of Technology); Stephen Vincent (Queensland University of Technology); Michael Collins (Queensland University of Technology)</i></p> <p><b>Similarity Learning based Few Shot Learning for ECG Time Series Classification</b></p> <p><i>Priyanka Gupta (CVR College of Engineering); Sathvik Bhaskarpandit (Birla Institute of Technology and Science, Pilani); Manik Gupta (Birla Institute of Technology and Science, Pilani)</i></p> <p><b>GAN-based Spatial Transformation Adversarial Method for Disease Classification on CXR Photographs by Smartphones</b></p> <p><i>Chak Fong Chong (Macao Polytechnic Institute); Xu Yang (Macao Polytechnic Institute); Wei Ke (Macao Polytechnic Institute); Yapeng Wang (Macao Polytechnic Institute)</i></p>
14:25-14:40	<b>Poster Session 3 – Q&amp;A</b>
14:30-15:00	Afternoon Tea – Ballroom Pre-Function Area
15:00-15:45	<b>Oral Session 5 – 3D Data Processing</b>
15:00-15:15	<p><b>3D Morphable Ear Model: A Complete Pipeline from Ear Segmentation to Statistical Modeling</b></p> <p><i>Md Mursalin (Edith Cowan University); Syed Islam (Edith Cowan University); Syed Zulqarnain Gilani (Edith Cowan University)</i></p>
15:15-15:30	<p><b>Full Series Algorithm of Automatic Building Extraction and Modelling From LiDAR Data</b></p> <p><i>Fayez Tarsha Kurdi (University of Southern Queensland); Zahra Gharineiat (University of Southern Queensland); Glenn Campbell (University of Southern Queensland); Emon Kumar Dey (Griffith University); Mohammad Awrangjeb (Griffith University)</i></p>
15:30-15:45	<p><b>Edge Aware Commonality Modeling based Reference Frame for 360 Degree Video Coding</b></p>

*Ashek Ahmmed (Charles Sturt University), Mark Pickering (University of New South Wales); Andrew Lambert (University of New South Wales); Manoranjan Paul (Charles Sturt University)*

15:45-16:20

**Poster Session 4 – 3-Minutes Spotlight**

**Lumbar Spine CT synthesis from MR images using CycleGAN**

*Gobert Lee (Flinders University); Mariusz Bajger (Flinders University); Minh-Son To (Flinders University); Adam Wells (The University of Adelaide); Chee Chong (Flinders Medical Centre); Marc Agzarian (Flinders Medical Centre); Santosh Poonnoose (Flinders Medical Centre)*

**Towards Automated Performance Assessment for Laparoscopic Box Trainer using Cross-Stage Partial Network**

*Koloud Alkhamaiseh (Western Michigan University); Janos Grantner (Western Michigan University); Ikhlas Abdel-Qader (Western Michigan University); Saad Shebrain (Western Michigan university)*

**Rapid Segmentation of Thoracic Organs using U-Net Architecture**

*Hassan Mahmood (Edith Cowan University); Syed Islam (Edith Cowan University); James Hill (Singular Health); Guan Tay (Singular Health)*

**Video-Based Cattle Identification and Action Recognition**

*Chuong Nguyen (CSIRO Data61); Dadong Wang (CSIRO Data61); Karl Von Richter (CSIRO Data61); Philip Valencia (CSIRO Data61); Flavio Alvarenga (NSW Department of Primary Industries); Gregory Bishop-Hurley (CSIRO Food and Agriculture)*

**Combining Data Augmentation and Domain Distance Minimisation to Reduce Domain Generalisation Error**

*Hoang Son Le (The University of Adelaide); Rini Akmeliawati (The University of Adelaide); Gustavo Carneiro (The University of Adelaide)*

**A Comparison of Saliency Methods for Deep Learning Explainability**

*Salamata Konate (Queensland University of Technology); Leo Lebrat (CSIRO); Rodrigo Santa Cruz (CSIRO); Elliot Smith (Maxwell plus); Clinton Fookes (Queensland University of Technology); Andrew Bradley (Queensland University of Technology); Olivier Salvado (Australian e-Health Research Centre)*

**A Chaos Theory Approach to Understand Neural Network Optimization**

*Michele Sasdelli (The University of Adelaide); Thalaiyasingam Ajanthan (Australian National University); Tat-Jun Chin (The University of Adelaide); Gustavo Carneiro (The University of Adelaide)*

**Robust Re-identification of Manta Rays from Natural Markings by Learning Pose Invariant Embeddings**

*Olga Moskvayak (Queensland University of Technology); Frederic Maire (Queensland University of Technology); Asia Armstrong (The University of Technology)*

	<p><i>of Queensland); Feras Dayoub (Queensland University of Technology); Mahsa Baktashmotlagh (University of Queensland)</i></p> <p><b>A Generative Deep Learning Approach for Forensic Facial Reconstruction</b></p> <p><i>Mitchell S Hargreaves (Monash University); David H Ting (Monash University); Stephen A Bajan (Monash University); Kamron B Bhavnagri (Monash University); Richard Basset (Victorian Institute of Forensic Medicine); Xiaojun Chang (RMIT University)</i></p> <p><b>Incremental Learning of Object Detector with Limited Training Data</b></p> <p><i>Adnan Ul-Hasan (National Center of Artificial Intelligence); Abdullah Hafeez (National University of Sciences and Technology); Faisal Shafait (National University of Sciences and Technology)</i></p> <p><b>The Role of Machine Learning in Game Development Domain - A Review of Current Trends and Future Directions</b></p> <p><i>Syed Afaq Ali Shah (Murdoch University)</i></p> <p><b>Point Cloud Registration with Self-supervised Feature Learning and Beam Search</b></p> <p><i>Guofeng Mei (UTS)</i></p>
16:20-16:35	<b>Poster Session 4 – Q&amp;A</b>
16:35-17:35	<b>APRS AGM</b>
18:00-22:30	Skypoint Tour + Banquet + Award Ceremony

### Main Conference Day 3 – Wednesday 1 December

#### Hilton Surfers Paradise Ballroom / Online

8:30-9:00	Registration
9:00-10:00	<p><b>Keynote 4</b></p> <p><b>Towards Deep Visual Understanding: from Perception to Cognition</b></p> <p><i>Tao Mei, JD.COM, China</i></p>
10:00-10:30	Morning Tea – Ballroom Pre-Function Area
10:30-11:45	<b>Oral Session 6 – Computer Vision</b>
10:30-10:45	<p><b>SimilarityGAN: Using Similarity to Loosen Structural Constraints in Generative Adversarial Models</b></p> <p><i>Supratik Mukhopadhyay (Louisiana State University); Edward Collier (Louisiana State University)</i></p>

10:45-11:00	<p><b>Identifying Bikers Without Helmets Using Deep Learning Models</b></p> <p><i>Md. Iqbal Hossain (BRAC University); Raghil Barkat Muhib (BRAC University); Amitabha Chakrabarty (BRAC University)</i></p>
11:00-11:15	<p><b>A Novel Class-wise Forgetting Detector in Continual Learning</b></p> <p><i>Cuong X Pham (Griffith University); Alan Liew (Griffith University); Can Wang (Griffith University)</i></p>
11:15-11:30	<p><b>Putting Current State Object Detectors to the Test: Towards Industry Applicable Leather Surface Defect Detection</b></p> <p><i>Masood Aslam (COMSATS University Islamabad); Tariq M Khan (Deakin University ); Syed S Naqvi (COMSATS University Islamabad ); Geoff Holmes (Leather &amp; Shoe Research Association)</i></p>
11:30-11:45	<p><b>Semi-supervised Learning via Conditional Rotation Angle Estimation</b></p> <p><i>Haiming Xu (The University of Adelaide); Lingqiao Liu (University of Adelaide); Dong Gong (The University of Adelaide)</i></p>
11:45-13:00	Lunch – Catch Restaurant
13:00-14:45	<p><b>Oral Session 7 – Detection and Classification</b></p>
13:30-13:45	<p><b>Modeling Human Skeleton Joint Dynamics for Fall Detection</b></p> <p><i>Sania Zahan (The University of Western Australia); Ghulam Mubashar Hassan (The University of Western Australia); Ajmal Mian (The University of Western Australia)</i></p>
13:45-14:00	<p><b>A Compositional Feature Embedding and Similarity Metric for Ultra-Fine-Grained Visual Categorization</b></p> <p><i>Yajie Sun (Griffith University ); Miaohua Zhang (Griffith University); Xiaohan Yu (Griffith University); Yi Liao (Griffith University); Yongsheng Gao (Griffith University)</i></p>
14:00-14:15	<p><b>Domain Adaptation for Plant Organ Detection with Style Transfer</b></p> <p><i>Chrisbin James (The University of Queensland); Yanyang Gu (The University of Queensland); Scott Chapman (The University of Queensland); Wei Guo (The University of Tokyo); Etienne David (Arvalis, Institut du végétal); Simon Madec (Arvalis); Andries Potgieter (The University of Queensland); Anders Eriksson (The University of Queensland )</i></p>
14:15-14:30	<p><b>Flood Detection in Social Media Using Multimodal Fusion on Multilingual Dataset</b></p> <p><i>Rabiul Islam Jony (Queensland University of Technology); Alan Woodley (Queensland University of Technology); Dimitri Perrin (Queensland University of Technology)</i></p>
14:30-14:45	<p><b>Multi-Resolution ResNet for Road and Bridge Crack Detection</b></p>

	<i>Fereshteh Nayyeri (Griffith University); Jun Zhou (Griffith University)</i>
14:45-15:15	Afternoon Tea – Ballroom Pre-Function Area
15:15-16:30	<p><b>Oral Session 8 – Applications</b></p> <p><b>SCMNet: Shared Context Mining Network for Real-time Semantic Segmentation</b>  <i>Tanmay Singha (Curtin University); Moritz Bergemann (Curtin University); Duc-Son Pham (Curtin University); Aneesh Krishna (Curtin University)</i></p> <p><b>Edge-enhanced Instance Segmentation of Wrist CT via a Semi-Automatic Annotation Database Construction Method</b>  <i>Xiaoxu Li (University of Technology Sydney); Yu Peng (StraxCorp); Min Xu (University of Technology Sydney)</i></p> <p><b>Attention-based Long-term Modeling for Deep Visual Odometry</b>  <i>Sangni Xu (The University of Sydney); Hao Xiong (Macquarie University); Qiuxia Wu (South China University of Technology); Zhiyong Wang (The University of Sydney)</i></p> <p><b>RE-Net: A Convolutional Neural Network for Retinal Vessel Segmentation</b>  <i>Tariq M Khan (Deakin University ); Antonio Robles-Kelly (Deakin University); Syed S Naqvi (COMSATS University Islamabad )</i></p> <p><b>Deep Adaptive Few Example Learning for Microscopy Image Cell Counting</b>  <i>Meng Li (The University of Queensland); Kun Zhao (The University of Queensland); Can Peng (the University of Queensland); Brian Lovell (The University of Queensland)</i></p>
16:30-16:50	APRS Early career researcher award talk
16:50-16:55	<b>Conference Closing</b>