Special Event: BMVA 3 Day Symposium

Kimpton Clocktower, Manchester, 4th - 6th April 2022

Organisers: Neill Campbell, Andrew Gilbert, Tim Cootes

Monday

12.30-1.30pm **Buffet lunch**

1.30 Welcome

1.45 Sagar Vaze – University of Oxford – Open-Set Recognition: A Good Closed Set Classifier is all you Need

2.05 Tu Bui – University of Surrey - content provenance for images and videos

2.25 Yuki Asano – University of Amsterdam - Keeping Your Eye on the Ball: Trajectory Attention in Video Transformers

2.45 **Coffee**

3.30 Muhammad Ahmed Raza - University of Edinburgh - Object-Centric Representation Learning with Generative Spatial-Temporal Factorization

3.50 Adam J Shephard - University of Warwick - Simultaneous Nuclear Instance and Layer Segmentation in Oral Epithelial Dysplasia

4.10 Connor James Robinson - University of Manchester - Segmentation of Multiple Tissue Types in Regenerating Wounds

4.30 Nikolina Kubiak - University of Surrey - SILT: Self-supervised Lighting Transfer Using Implicit Image Decomposition

4.50 End

7pm Drinks Reception

8pm Sit down Dinner

Tuesday

8.30 **Coffee**

9.00 Welcome

9.10 Margaret Duff – University of Bath - Regularising Inverse Imaging Problems using Generative Machine Learning Methods

9.30 Aneeshan Sain – University of Surrey - StyleMeUp: Towards Style-Agnostic Sketch-Based Image Retrieval

9.50 Spotlights

10.30 **Coffee + posters**

11.30 Keynote: Andrew Davison - Imperial college London - A Robot Web for Multi-Robot Localisation

12.30 **lunch**

1.30 Srijay Deshpande - University of Warwick - Stitching Across the FROntier Network for Generating Colorectal Cancer Histology Images

1.50 Dan Ruta – University of Surrey – ALADIN: All Layer Adaptive Instance Normalization for Fine-grained Style Similarity

2.10 Pinaki Nath Chowdhury – University of Surrey - Partially Does It: Towards Scene-Level FG-SBIR with Partial Input

2.30 **Coffee + posters**

3.30 Ayan Kumar Bhunia – University of Surrey - Vectorization and Rasterization: Self-Supervised Learning for Sketch and Handwriting

3.50 Robert Dawes – BBC R&D – Using AI to assist natural history production

4.10 Manuel Rey Area – University of Bath

4.30 Raja Ebsim – University of Manchester - Analysing hips/knees scans in the UK Biobank

4.50 End

7pm Drinks Reception

8pm Sit down Dinner

Wednesday

8.30 **Coffee**

9.15 Welcome

9.30 - Prajwal Kondajji Renukananda - Visual Keyword Spotting with Attention – University of Oxford

9.50 Spotlights

10.30 **Coffee + posters**

11.50 Laura Hanu – Unitary - VTC: Improving Video-Text Retrieval with User Comments

12.10 Ayna Das - University of Surrey - Pixelor: a competitive sketching AI agent. so you think you can sketch?

12.30 **lunch**

1.30 Finish

Posters

T - Yona Falinie Abd Gaus – University of Durham - Evaluating the transferability and adversarial discrimination of convolutional neural networks for threat object detection and classification within x-ray security imagery

T - Mona Abdelgayed - University of York

T - Mohammed Alghamdi - University of Leeds - Video Synthesis of Talking Heads

W - Teymoor Ali - University of Stirling / STMicroelectronics - Domain-specific Optimisations of Image Processing Algorithms on Heterogeneous Platforms

W - Muna Almushyti - Durham university - Distillation of Human-Object Interaction Contexts for Action Recognition

W - Yuki M. Asano - University of Amsterdam - PASS: Pictures without humAns for Self-Supervised Pretraining

T - Jack Barker – University of Durham - Semi-Supervised Surface Anomaly Detection of Composite Wind Turbine Blades From Drone Imagery

W - Neelanjan Bhowmik - Durham University - On the impact of using X-ray energy response imagery for object detection via Convolutional Neural Networks

W - Ayan Kumar Bhunia – University of Surrey - Vectorization and Rasterization: Self-Supervised Learning for Sketch and Handwriting

T - Toby Breckon - Durham University - Not 3D Re-ID: Simple Single Stream 2D Convolution for Robust Video Re-identification

T - Andrzej Brodzicki - AGH, Cracow, Poland - Interpretability Algorithms for Dermoscopic Image Classification into Main Anatomic Body Sites

W - Douglas Brion - University of Cambridge - Vision based error correction in 3D printing

W - Emmeline Brown - University College London - Deep learning segmentation of 3D artery-vein vasculature

T - Tu Bui – University of Surrey - content provenance for images and videos

W - Alexander Carmichael - University of Stirling - Empirical Wavelets for Histological Image Analysis in Aquatic Animal Health

W - Gemma Canet Tarrés - University of Surrey - CoGS: Controllable Generation and Search from Sketch and Style

W - Pinaki Nath Chowdhury – University of Surrey - Partially Does It: Towards Scene-Level FG-SBIR with Partial Input

T - Amirhossein Dadashzadeh - University of Bristol - Boosting Generalization in Self-Supervised Video Representation Learning by Similarity-Based Knowledge Distillation

W - Ayan Das - University of Surrey - SketchODE: Learning neural sketch representation in continuous time

W - Robert Dawes, Matthew Judge, Oscar Schafer – BBC R&D – Using AI to assist natural history production

W - Srijay Deshpande - University of Warwick - Stitching Across the FROntier Network for Generating Colorectal Cancer Histology Images

W - Margaret Duff - University of Bath - Regularising Inverse Imaging Problems using Generative Machine Learning Methods

T - Farshad Einabadi, Jean-Yves Guillemaut, Adrian Hilton – University of Surrey - Neural Rendering of Human Appearance

T - Jonathan Freer - University of Birmingham - Novel-View Synthesis of Human Tourist Photos

T - Thomas Gittings - University of Surrey - Robust Adversarial Attack and Defence of Convolutional Neural Networks

W - Joe Goodier – University of Bath -Interpretable Computer Vision in Diagnostic Imaging using Deep Generative Models

W - Orgu Goksu – University of Glasgow - Learning Visual Representation with Latent SpaceEmbeddings for Self-supervised Learning

W - Laura Hanu – Unitary - VTC: Improving Video-Text Retrieval with User Comments

T - Nora Horanyi – University of Birmingham - Repurposing Existing Deep Networks for Caption and Aesthetic-Guided Image Cropping

T - Brian Kostadinov Shalon Isaac-Medina - Durham University - Multi-view Object Detection Using Epipolar Constraints within Cluttered X-ray Security Imagery

W - Jundan Luo - University of Bath - Learning Consistent Reflectance Estimation with a Decoder-sharing Transformer.

W - Li Li - Durham University - DurLAR: A High-fidelity 128-channel LiDAR Dataset with Panoramic Ambient and Reflectivity Imagery for Multi-modal Autonomous Driving Applications

W - Zewen Liu - University of Manchester - A Sense of Direction in Neural Networks

W - Daniel Kluvanec - Durham University - Using Orientation to Distinguish Overlapping Chromosomes

T - Hyunwoo Kim - University College London - Machine affect recognition of dynamic expressions: the role of expression intensity, prototypicality and ambiguity

T - Eva Krumhuber - University College London - Teardrops on My Face: Automatic Tear Detection from Nonverbal Behavior

T - Prajwal Kondajji Renukananda - University of Oxford - Sub-word Level Lip Reading With Visual Attention

T - Nikolina Kubiak - University of Surrey - SILT: Self-supervised Lighting Transfer Using Implicit Image Decomposition

T - Katarina Mayer – ESET - Lung ultrasound score as a predictor of severity of bronchopulmonary dysplasia in prematurely born infants: a machine learning approach

T - Violeta Menéndez González - University of Surrey - SaiNet: Stereo aware inpainting behind objects with generative networks

W - Liliane Momeni - Oxford University - Read and Attend: Temporal Localisation in Sign Language Videos

W - Jaemin Na - University of Birmingham - FixBi: Bridging Domain Spaces for Unsupervised Domain Adaptation

T - Ashkan Pakzad - University College London - Unsupervised airway measurement to predict survival in bronchiectasis

T - William Prew - Durham University - A Helping Hand: Techniques to Improve Generative Architectures for Robotic Grasping

W - Muhammad Ahmed Raza - University of Edinburgh - EatSense: Recognition and Quality Assessment of Fine-Grained Actions for Eating Activities

W- Manuel Rey Area – University of Bath

W - Connor James Robinson - University of Manchester - Segmentation of Multiple Tissue Types in Regenerating Wounds

T - Stepan Romanov - University of Manchester - Artificial Intelligence for image-based breast cancer risk prediction

W - Dan Ruta – University of Surrey – ALADIN: All Layer Adaptive Instance Normalization for Fine-grained Style Similarity

T - Aneeshan Sain – University of Surrey - StyleMeUp: Towards Style-Agnostic Sketch-Based Image Retrieval

T - Hiroshi Sasaki - Durham University - Data Augmentation via Mixed Class Interpolation using Cycle-Consistent Generative Adversarial Networks Applied to Cross-Domain Imagery

W - Karthik Seemakurthy - University of Lincoln - Domain shift for object detection

W - Anza Shakeel - Durham University - Unsupervised feature learning and automatic detection of transient phenomena in InSAR time-series

T - Henry Senior, Greg Slabaugh, Luca Rossi - Queen Mary University of London - Where do Humans Pay Attention? Mining Attention from Captions to Improve Image Captioning

T - Adam J Shephard - University of Warwick - Simultaneous Nuclear Instance and Layer Segmentation in Oral Epithelial Dysplasia

T - Rebecca Stone - University of Leeds - Epistemic uncertainty-weighted loss for visual bias mitigation

T - Jose Sosa – University of Leeds - 3D Human Body Pose Estimation From a Single Image

W - Mowen Xue - University of Bristol - Small or Far Away? Exploiting Deep Super-Resolution and Altitude Data for Aerial Animal Detection

W - Hanyuan Wang - University of Bristol - TVNet: Temporal Voting Network for Action Localization

W - Matthew Watson - Durham University – Agree to Disagree: When Deep Learning Models With Identical Architectures Produce Distinct Explanations

T - Sagar Vaze – University of Oxford - Open-Set Recognition: A Good Closed Set Classifier is all you Need

T - Hongyuan Xie - Manchester Metropolitan University - Detection and Classification of Eczema Skin Disease

T - Moucheng Xu - University College London - Learning Morphological Feature Perturbations for Calibrated Semi-Supervised Segmentation

T - Chuin Hong Yap - Manchester Metropolitan University - Facial Micro- and Macro-Expressions Spotting and Generation Methods

T - Xulu Yao - Manchester Metropolitan University - A Scene Graph-to-UI Model for Graphical User Interface Layout Generation

T - Ziang Zhao - Cardiff University - Deep learning for fruit ripeness determination