The **Centre for Applied Creative Technologies** (CfACTs) led by Prof Jian Chang Bournemouth University, is recruiting Post-Doctoral Researchers Fellows (1st cohort starting April 2021) to work on Creative Technology R&D with Industry Partners. Please see: https://cordis.europa.eu/project/id/900025

CfACTs is founded on the expertise of **National Research Centre for Computer Animation (NRCCA), Bournemouth University** https://www.bournemouth.ac.uk/research/centres-institutes/national-research-centre-computer-animation . NRCCA academics will provide supervisory support to the CfACTs Fellows during a two year placement with Industry Partners. Selected expertise and recent publications of the NRCCA team are provided below:

Publications by Research Topic:

1. AI Assisted 3D Reconstruction and Character Modelling

Xiang, N., Wang, R., Jiang, T., Wang, L., Li, Y., Yang, X. and Zhang, J., 2020. Sketch-based modelling with a differentiable renderer. *Computer Animation and Virtual Worlds*, *31*(4-5), p.e1939.

Xiaohui Tan, Zhengyuan Lv, Kang Wang and Xiaosong Yang. 2020, Dynamic human body size measurement based on feature points prediction and mapping, accepted by Springer Commmunications in Computer and Information Sciences.

Nie, Y., Han, X., Guo, S., Zheng, Y., Chang, J. and Zhang, J.J., Total3DUnderstanding: Joint Layout, Object Pose and Mesh Reconstruction for Indoor Scenes from a Single Image Supplementary Material.

Nie, Y., Guo, S., Chang, J., Han, X., Huang, J., Hu, S.M. and Zhang, J.J., 2020. Shallow2Deep: Indoor scene modeling by single image understanding. *Pattern Recognition*, *103*, p.107271.

Nan Xiang, Li Wang, Tao Jiang, Yanran Li, Xiaosong Yang, and Jianjun Zhang. 2019. Single-image Mesh Reconstruction and Pose Estimation via Generative Normal Map. In Proceedings of the 32nd International Conference on Computer Animation and Social Agents (CASA '19). ACM, New York, NY, USA, 79-84. DOI: https://doi.org/10.1145/3328756.3328766

Nie, Y., Chang, J., Chaudhry, E., Guo, S., Smart, A. and Zhang, J.J., 2018. Semantic modeling of indoor scenes with support inference from a single photograph. *Computer Animation and Virtual Worlds*, *29*(3-4), p.e1825.

Kazmi, I. K., You, L., Yang, X., Jin, X., & Zhang, J. J. (2015). Efficient sketch-based creation of detailed character models through data-driven mesh deformations. Computer Animation and Virtual Worlds, 26(3-4), 469-481. doi:10.1002/cav.1656

2. AI Assisted Human Motion Capture, Recognition, Prediction and Retrieval

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Wang, Z., Feng, Y., Qi, T., Yang, X. and Zhang, J.J., 2016. Adaptive multi-view feature selection for human motion retrieval. Signal Processing, 120, 691-701.

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Xiao, J., Feng, Y., Ji, M., Yang, X., Zhang, J., Zhuang, Y., 2014, Sparse Motion Bases Selection for Human Motion Denoising, Signal Processing, accepted, DOI: 10.1016/j.sigpro.2014.08.017.

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3. AI Assisted Facial Expression Recognition, Detection and Synthesis

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Liu, S., Wang, Z., Yang, X., Zhang, J., 2017, Realtime Dynamic 3D Facial Reconstruction for Monocular Video In-The-Wild, The IEEE International Conference on Computer Vision (ICCV), 2017, pp. 777-785

Zhang, Y., Liu, S., Yang, X., Zhang, J. and Shi, D., 2017. Supervised coordinate descent method with a 3D bilinear model for face alignment and tracking. Computer Animation and Virtual Worlds, 28 (3-4).

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4. AI Assisted Graphical Content Generation, Analysis and Retrieval

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7. Novel HCI

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8. Physically Based Animation and Simulation: Complex fluid dynamics, deformable objects modelling

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