

TIME: 10:00am~11:00am(GMT+ 01:00), Friday, 6th May, 2022

16:00pm~17:30pm(GMT+ 08:00), Friday, 6th May, 2022

VooV/Tencent Meeting ID: 992-461-955

<https://meeting.tencent.com/dm/kFSmck9HUwt3>

CHAIR: Dr. Bo Peng, Institute of Automation, CAS



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NICE

## Speaker

## Title: Generative models in biometrics



Dr. Vitomir Štruc

**Abstract:** With the developments in the field of generative modeling and with the appearance of powerful model architectures, such as Generative Adversarial Networks (GAN), a wide range of new techniques and inventive algorithms has emerged recently to solve diverse computer vision problems, including many problems in the area of biometrics. In this talk, I will first provide a short overview of recent advances in generative modeling and describe some of our research efforts that focus explicitly on generative models. Next, I will present our recent biometrics-related research utilizing the powerful StlyGAN2 generator and talk about: (i) face image editing with our GAN inversion based MaskFaceGAN technique that allows for photo realistic image manipulation and explicitly addresses the problem of attribute

photo realistic image manipulation and explicitly addresses the problem of attribute entanglement seen with many latent-space based editing solutions, and (ii) bimodal ocular image generation (and annotation) with our Dual-Branch StlyGAN2 (DB-StyleGAN) model. Finally, I will elaborate on some of the existing challenges with generative models and highlight future research directions.

**Biography:** Vitomir Štruc is an Associate Professor at the University of Ljubljana, Slovenia. He received his doctoral degree from the Faculty of Electrical Engineering in Ljubljana in 2010. Vitomir's research interests include problems related to biometrics, computer vision, image processing, pattern recognition and machine learning. He (co-)authored more than 150 research papers for leading international peer reviewed journals and conferences in these and related areas. He served in different capacities on the organizing committees of several top-tier vision conferences, including IEEE Face and Gesture, ICB, WACV and IJCB. Vitomir is a Senior Area Editor for the IEEE Transactions on Information Forensics and Security, a Subject Editor for Elsevier's Signal Processing and an Associate Editor for Pattern Recognition, and IET Biometrics. He served as an Area Chair for WACV 2018, 2019, 2020, ICPR 2018, Eusipco 2019 and FG 2020, 2021 and as the Program Chair for IJCB 2020 and IWBF 2022. Currently he acts as a Program Co-Chair for IWBF 2023, workshop co-chair for WACV 2022, a competition co-chair for IJCB 2022 and a Workshop and tutorial Co-Chair for FG 2023. Dr. Struc is a Senior member of the IEEE, a member of IAPR, EURASIP, Slovenia's national contact point for the European Association for Biometrics (EAB) and the former president and current executive committee member of the Slovenian Pattern Recognition Society, the Slovenian branch of IAPR. Vitomir is also the current VP Technical Activities for the IEEE Biometrics Council.

## Chair



Dr. Bo Peng

Dr. Bo Peng received his PhD degree in the Institute of Automation, Chinese Academy of Sciences (CASIA) in 2018. Since July 2018, Dr. Bo Peng has joined CASIA where he is currently an Associate Researcher. His current research focuses on multimedia security and image forensics. He has published around 20 papers in journals and conferences like IEEE TIFS, TCSVT, CVPR, MM, ICIP.