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**Huawei Cloud Service Summit 2021**  
 3<sup>rd</sup> – 4<sup>th</sup> November 2021  
 Online Event

# Huawei Cloud Service Summit 2021

## Online Event Catalogue

3<sup>rd</sup> – 4<sup>th</sup> November 2021

3<sup>rd</sup> November 2021 | Content Security/NLP

### AGENDA

#### Welcome Words

EET 09:30 - 09:40  
 CET 08:30 - 08:40 Kuan Eeik Tan, Head of Huawei Terminal Cloud Service Competence Center of Helsinki

#### Opening Speech

EET 09:40 - 10:00  
 CET 08:40 - 09:00 Wang Aimeng, President of Huawei Finland Research Center

#### Fighting the COVID-19 Infodemic: from Fake News to Hate Speech

EET 10:00 - 11:00  
 CET 09:00 - 10:00 Dr. Preslav Nakov, Principal Scientist, Qatar Computing Research Institute (QCRI), lead of the Tanbih mega-project (<http://tanbih.qcri.org>), developed in collaboration with MIT

#### From Signal to Knowledge-graph and Back Again Within A Multimodal Interaction Application

EET 11:00 - 12:00  
 CET 10:00 - 11:00 Piek Vossen, Full Professor of Computational Lexicology at the VU University Amsterdam, Head of the Computational Lexicology & Terminology Lab (CLTL) and co-founder and president of the Global WordNet Association (GWA)

### LUNCH BREAK

#### Trustworthy Information Retrieval Systems

EET 13:00 - 14:00  
 CET 12:00 - 13:00 Maarten de Rijke, Full Professor of Artificial Intelligence and Information Retrieval at the University of Amsterdam/VP Personalization and Relevance and Senior Research Fellow at Ahold Delhaize

#### Systems That Learn and Reason

EET 14:00 - 15:00  
 CET 13:00 - 14:00 Frank van Harmelen, Full Professor in Knowledge Representation & Reasoning in the Computer Science department (Faculty of Science) at the Vrije Universiteit Amsterdam

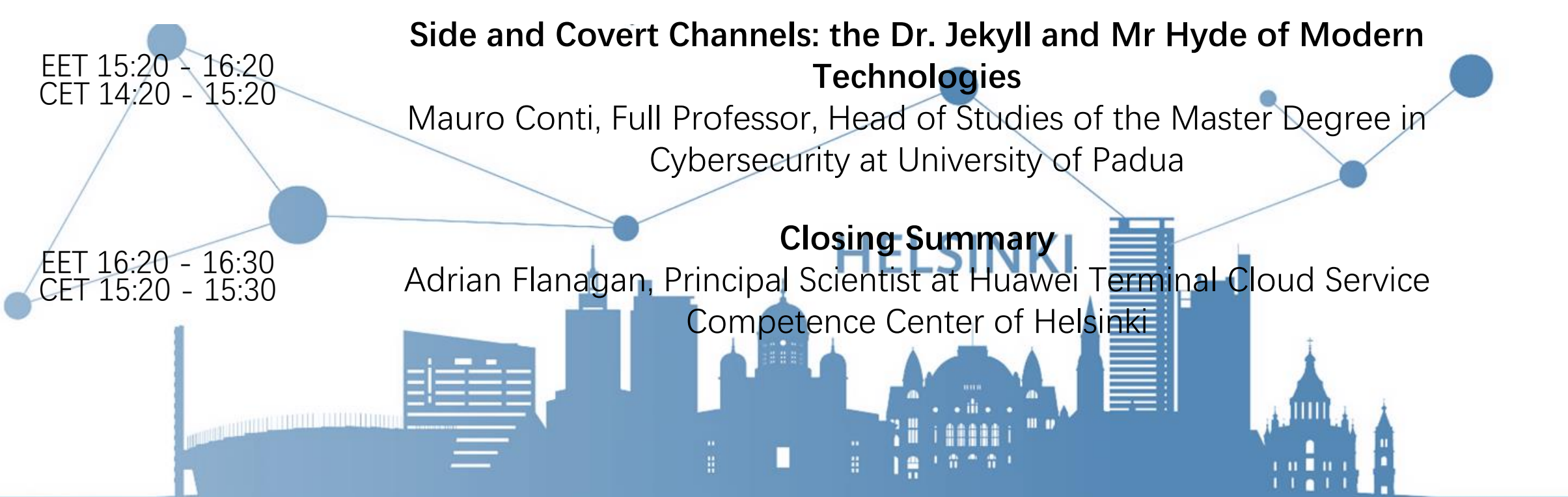
### COFFEE BREAK

#### Side and Covert Channels: the Dr. Jekyll and Mr Hyde of Modern Technologies

EET 15:20 - 16:20  
 CET 14:20 - 15:20 Mauro Conti, Full Professor, Head of Studies of the Master Degree in Cybersecurity at University of Padua

#### Closing Summary

EET 16:20 - 16:30  
 CET 15:20 - 15:30 Adrian Flanagan, Principal Scientist at Huawei Terminal Cloud Service Competence Center of Helsinki







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4<sup>th</sup> November 2021 | Computer Vision

**AGENDA**

**Welcome Words**

EET 09:30 - 09:40  
CET 08:30 - 08:40 Kuan Eeik Tan, Head of Huawei Terminal Cloud Service Competence Center of Helsinki

**Huawei Search Computer Vision**

EET 09:40 - 10:00  
CET 08:40 - 09:00 Baiqiang Xia, Principal Scientist at Huawei Terminal Cloud Service Competence Center of Helsinki

**Deep Learning for Image-based Depth Estimation and View Synthesis**

EET 10:00 - 11:00  
CET 09:00 - 10:00 Janne Heikkilä, Full Professor of Computer Science and Engineering in Center for Machine Vision and Signal Analysis (CMVS) at the University of Oulu

**Remote Heart Rate Measure from Videos**

EET 11:00 - 12:00  
CET 10:00 - 11:00 Guoying Zhao, Full Professor at the Center for Machine Vision and Signal Analysis, University of Oulu

**LUNCH BREAK**

**Lightweight Deep Learning for Visual Information Analysis and Retrieval**

EET 13:00 - 14:00  
CET 12:00 - 13:00 Anastasios Tefas, Associate Professor at the Department of Informatics, Aristotle University of Thessaloniki

**Video-language Representation Learning**

EET 14:00 - 15:00  
CET 13:00 - 14:00 Cees Snoek, Full Professor in artificial intelligence at the University of Amsterdam

**COFFEE BREAK**

**Paradoxes between Blockchain and GDPR**

EET 15:20 - 16:20  
CET 14:20 - 15:20 A.K.M. Najmul Islam, Associate Professor of Digital Transformation at LUT University, Finland

**Fine-grained Visual Recognition and Retrieval**

EET 16:20 - 17:20  
CET 15:20 - 16:20 Jiri Matas, Full Professor at the Center for Machine Perception, Czech Technical University in Prague

**Closing Summary**

EET 17:20 - 17:30  
CET 16:20 - 16:30 Baiqiang Xia, Principal Scientist at Huawei Terminal Cloud Service Competence Center of Helsinki

Day 1 Content Security/NLP

**Topic: Fighting the COVID-19 Infodemic: from Fake News to Hate Speech**

**Dr. Preslav Nakov**  
Qatar Computing Research Institute (QCRI)

**Speaker Introduction**

Dr. Preslav Nakov is a Principal Scientist at the Qatar Computing Research Institute (QCRI), HBKU, where he leads the Tanbih mega-project (developed in collaboration with MIT), which aims to limit the impact of "fake news", propaganda, and media bias by making users aware of what they are reading, thus promoting media literacy and critical thinking. He received his PhD degree in Computer Science from the University of California at Berkeley, supported by a Fulbright grant. Dr. Preslav Nakov is President of ACL SIGLEX, Secretary of ACL SIGSLAV, and a member of the EACL advisory board. He is also member of the editorial board of a number of journals including Computational Linguistics, TACL, IEEE TASL, CS&L, NLE, AI Communications, and Frontiers in AI. He authored a Morgan & Claypool book on Semantic Relations between Nominals and two books on computer algorithms. He published 250+ research papers, and he was named among the top 2% of the world's most-cited in the career achievement category, part of a global list compiled by Stanford University. He received a Best Long Paper Award at CIKM'2020, a Best Demo Paper Award (Honorable Mention) at ACL'2020, a Best Task Paper Award (Honorable Mention) at SemEval'2020, a Best Poster Award at SocInfo'2019, and the Young Researcher Award at RANLP'2011. He was also the first to receive the Bulgarian President's John Atanasoff award, named after the inventor of the first automatic electronic digital computer. Dr. Nakov's research was featured by over 100 news outlets, including Forbes, Boston Globe, Aljazeera, DefenseOne, Business Insider, MIT Technology Review, Science Daily, Popular Science, Fast Company, The Register, WIRED, and Engadget, among others.

**Abstract**

The COVID-19 pandemic has brought us the first global infodemic. While fighting this infodemic is typically thought of in terms of factuality, the problem is much broader as malicious content includes not only "fake news", rumors, and conspiracy theories, but also hate speech, racism, xenophobia, panic, and mistrust in authorities, among others. Thus, we argue for the need for a holistic approach combining the perspectives of journalists, fact-checkers, policymakers, social media platforms, and society as a whole, and we demonstrate how we model this in a practical system that supports Arabic, Bulgarian, Dutch, and English (<http://covid19.tanbih.org/>).

The infodemic is often described using terms such as "fake news", which mislead people to focus exclusively on factuality, and to ignore the other half of the problem: the potential malicious intent. We aim to bridge this gap by focusing on the detection of specific propaganda techniques in text, e.g., appeal to emotions, fear, prejudices, logical fallacies, etc. (<http://www.tanbih.org/prta>). We further demonstrate multi-modal extensions of this work to analyze propagandistic and harmful memes.

We then move to offensive language detection, and we argue that the task requires modeling both the type and the target of the offense. We describe the three-level analysis schema of OLID, which was further used in the large-scale semi-supervised SOLID dataset, as well as for the OffensEval-2020 shared task, which featured Arabic, Danish, English, Greek, and Turkish. We also discuss a novel neighborhood framework for cross-lingual abusive language detection, based on a nearest neighbor framework, which we evaluate on ten datasets covering eight languages (Albanian, Italian, English, German, Hungarian, Russian, Spanish, and Turkish), achieving sizable improvements over the state of the art, as well as a speed-up at inference time.

Finally, we present a study of popular online platforms, and we argue that there is currently a dichotomy between what types of abusive language such platforms seek to curb, and what research efforts there are to automatically detect abusive language.

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# Huawei Cloud Service Summit 2021

3<sup>rd</sup> – 4<sup>th</sup> November 2021  
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Day 1 Content Security/NLP

## Topic: From Signal to Knowledge-graph and Back Again Within A Multimodal Interaction Application

**Prof. Piek Vossen**  
VU University Amsterdam

### Speaker Introduction

Piek Vossen (1960) is full Professor of Computational Lexicology at the VU University Amsterdam, Head of the Computational Lexicology & Terminology Lab (CLTL) and co-founder and president of the Global WordNet Association (GWA). He was elected a member of the Royal Dutch Academy of Arts and Sciences and the Koninklijke Hollandsche Maatschappij der Wetenschappen and he won the prestigious Dutch Spinoza prize for his innovative interdisciplinary research.

His research focuses on the complexity of something that we use every day: language. His research interests are WordNets, Computational Lexicon, Ontologies, Computational Linguistics, Language Technology and Computer-Applications, both within a single language and from a multilingual perspective. Vossen is interested in the relation between lexicons and ontologies, from a theoretical point of view as well as from their usage in computer-applications in which meaning and interpretation play a role. He sees the lexicon as a fundamental resource to anchor meaning and interpretation in useful computer behaviour. Computer behaviour can make use of communicative models and insights from communication science. The organization of the lexicon and the knowledge stored in it need to take that usage as a starting point. He combines linguistics and computer science to model understanding of natural language texts by computers and is currently investigating how we can teach machines and robots to communicate and to understand human language in 3 large projects: "Understanding of Language by Machines", "Make Robots Talk/Alani" and the Gravity-project "Hybrid Intelligence". He is also known as PI of the EC-projects "NewsReader", "EuroWordNet" and "Kyoto". For more info: [www.vossen.info](http://www.vossen.info)

### Abstract

Interaction takes time. Modelling interaction requires capturing signals as a stream in time and responding to these signals accordingly. In this presentation I will talk about a signal processing platform called EMISSOR that 1) captures signals from the interaction: video, audio, conversation as a stream in time, 2) interprets segments of these signals within the context and 3) stores the result of this interpretation in an episodic Knowledge Graph (eKG) which is called the BRAIN. As signals are processed while time passes, knowledge and information cumulates in the eKG. At each point in time, our system may respond to a signal by evaluating the so-called state-of-brain. Evaluating the state-of-brain is modeled by reasoning over the quality of the cumulated information, which are called thoughts. These thoughts (SPARQL queries) generate a list of the conflicts, uncertainties, gaps, analogies, improbabilities and probabilities of the information acquired so far. Responses of the system are defined as actions (speech-acts) to trigger new signals. A learning component can be added that generates those responses that yield better BRAINS, e.g. less conflicts, gaps, uncertainties, etc. EMISSOR stands for Episodic Memories and Interpretations with Situated Scenario-based Ontological References.

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Day 1 Content Security/NLP

## Topic: Side and Covert Channels: the Dr. Jekyll and Mr Hyde of Modern Technologies

**Prof. Mauro Conti**  
University of Padua

### Speaker Introduction

Mauro Conti received his MSc and his PhD in Computer Science (advisor Prof. Luigi V. Mancini) from Sapienza University of Rome, Italy, in 2005 and 2009, respectively. In 2008, he was Visiting Researcher (supervised by Prof. Sushil Jajodia) at the Center for Secure Information Systems (CSIS) at George Mason University, Fairfax, VA, USA. In 2009 he was selected for the ERCIM (European Research Consortium for Informatics and Mathematics) "Alain Bensoussan" Fellowship (currently a EU Marie Curie COFUND action). From 2009 to 2011 he was Postdoctoral Researcher (supervised by Prof. Andrew S. Tanenbaum and Prof. Bruno Crispo) at Vrije Universiteit Amsterdam, The Netherlands. In November 2010, he was visiting researcher at UCLA - University of California, Los Angeles, CA, USA (working with Prof. Mario Gerla). In 2011, he joined University of Padua, Italy, (among the best Italian universities) as Assistant Professor (tenured faculty). In the summer of 2012, 2013, and 2014 he was visiting Assistant Professor at UCI - University of California, Irvine, CA, USA (working with Prof. Gene Tsudik). From 2012, he is a EU Marie Curie Fellow. In October-November 2013 he was a DAAD Fellow at the Center for Advance Security Research Darmstadt (CASED), TU Darmstadt, Germany (working with Prof. Ahmad-Reza Sadeghi). In 2014, he was elevated to the IEEE Senior Member grade and in 2020 to the ACM Senior Member grade. In 2015 he became Associate Professor, and Full Professor in 2018. He is member of the Blockchain Expert Panel of the Italian Government. In 2021 he was nominated Fellow of the Young Academy of Europe (YAE). From 2020, he is Head of Studies of the Master Degree in Cybersecurity at University of Padua.

### Abstract

While Smartphone and IoT devices usage become more and more pervasive, people start also asking to which extent such devices can be maliciously exploited as "tracking devices". The concern is not only related to an adversary taking physical or remote control of the device, but also to what a passive adversary without the above capabilities can observe from the device communications. Work in this latter direction aimed, for example, at inferring the apps a user has installed on his device, or identifying the presence of a specific user within a network. In this talk, we discuss threats coming from contextual information and to which extent it is feasible, for example, to identify the specific actions that a user is doing on mobile apps, by eavesdropping their encrypted network traffic. We will also discuss the possibility of building covert and side channels leveraging timing, heat, energy consumption, and audio signals, to steal information from mobile devices, as well as inferring keypresses, password & PINs.

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Day 1 Content Security/NLP

Topic: Systems That Learn and Reason

**Prof. Frank van Harmelen**  
VU University Amsterdam

### Speaker Introduction

Piek Vossen (1960) is full Professor of Computational Lexicology at the VU University Amsterdam, Head of the Computational Lexicology & Terminology Lab (CLTL) and co-founder and president of the Global WordNet Association (GWA). He was elected a member of the Royal Dutch Academy of Arts and Sciences and the Koninklijke Hollandsche Maatschappij der Wetenschappen and he won the prestigious Dutch Spinoza prize for his innovative interdisciplinary research.

His research focuses on the complexity of something that we use every day: language. His research interests are WordNets, Computational Lexicon, Ontologies, Computational Linguistics, Language Technology and Computer-Applications, both within a single language and from a multilingual perspective. Vossen is interested in the relation between lexicons and ontologies, from a theoretical point of view as well as from their usage in computer-applications in which meaning and interpretation play a role. He sees the lexicon as a fundamental resource to anchor meaning and interpretation in useful computer behaviour. Computer behaviour can make use of communicative models and insights from communication science. The organization of the lexicon and the knowledge stored in it need to take that usage as a starting point. He combines linguistics and computer science to model understanding of natural language texts by computers and is currently investigating how we can teach machines and robots to communicate and to understand human language in 3 large projects: "Understanding of Language by Machines", "Make Robots Talk/Alani" and the Gravity-project "Hybrid Intelligence". He is also known as PI of the EC-projects "NewsReader", "EuroWordNet" and "Kyoto". For more info: [www.vossen.info](http://www.vossen.info)

### Abstract

After the amazing breakthroughs of machine learning (deep learning or otherwise) in the past decade, the shortcomings of machine learning are also becoming increasingly clear: unexplainable results, data hunger and limited generalisability are all becoming bottle necks. In this talk we will look at how the combination with symbolic AI (in the form of very large knowledge graphs) can give us a way forward, towards machine learning systems that can explain their results, that need less data, and that generalise better outside their training set.

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Day 1 Content Security/NLP

Topic: Trustworthy Information Retrieval Systems

**Prof. Maarten de Rijke**  
University of Amsterdam

### Speaker Introduction

Maarten de Rijke is University Professor of Artificial Intelligence and Information Retrieval at the University of Amsterdam. He is also VP Personalization and Relevance and Senior Research Fellow at Ahold Delhaize. His research strives to build intelligent technology to connect people to information. His team pushes the frontiers of search engines, recommender systems and conversational assistants. They also investigate the influence of the technology they develop on society. De Rijke is the director of the Innovation Center for Artificial Intelligence.

### Abstract

To realize the promise of artificial intelligence to contribute to the core challenges in information retrieval (IR), trust is a central component. As a key aspect of the interaction between people and IR systems based on artificial intelligence, trust can be gained in an intrinsic manner by revealing the inner workings of an IR system, and it can be gained in an extrinsic manner by showing that an IR system upholds verifiable guarantees. In the talk I will propose a number of dimensions for which we I believe we need verifiable guarantees: accuracy, reliability, repeatability, resilience, and safety. I will sample from recent algorithmic advances on these dimensions and formulate a number of open problems for each of them.

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Day 2 Computer Vision

Topic: Deep Learning for Image-based Depth Estimation and View Synthesis

**Prof. Janne Heikkilä**  
University of Oulu

**Speaker Introduction**

Janne Heikkilä received his Doctor of Science in Technology degree in Information Engineering from the University of Oulu in 1998. Currently, he is a Professor of Computer Science and Engineering in Center for Machine Vision and Signal Analysis (CMVS) at the University of Oulu. In his career, he has served the research community in various positions of trust including editorial boards of scientific journals, program committees of international conferences, and as a President of the Pattern Recognition Society of Finland. He is an IAPR and AAIA Fellow, and a Senior Member of IEEE. He has been the principal investigator in numerous research projects funded by Academy of Finland, Business Finland/TEKES and enterprises. His research interests include 3D computer vision, computational photography, digital image and video processing, and deep neural networks. Prof. Heikkilä has published around 200 peer reviewed scientific articles in international journals and conferences (12,000 citations, h-index 39 in Google Scholar).

**Abstract**

Image-based depth estimation is a classical computer vision problem, where deep learning has become state-of-the-art in recent years. This talk mainly focuses on monocular depth estimation and depth completion tasks with four types of solutions. Firstly, we show how monocular depth estimation networks can be enhanced by incorporating an implicit planarity constraint, by using salient point detection and geometric invariance, and by employing neural architecture search for achieving better model compactness and accuracy. Secondly, we propose a method for boosting monocular depth estimation with a sparse 3D point cloud to implement an efficient solution for depth completion. Moreover, this talk addresses view synthesis, which is another important problem of computer vision where deep learning has induced significant progress. In particular, we show that depth estimation has a fundamental role also in this area of research.



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Day 2 Computer Vision

Topic: Remote Heart Rate Measure from Videos

**Prof. Guoying Zhao**  
University of Oulu

**Abstract**

Physiological signals, including heart rate (HR), heart rate variability (HRV), and respiratory frequency (RF) are important indicators of our health, which are usually measured in clinical examinations. Traditional physiological signal measurement often involves contact sensors, which may be inconvenient or cause discomfort in long-term monitoring sessions. Recently, there were studies exploring remote HR measurement from facial videos, and many methods have been proposed. This talk first introduces this new emerging research topic and recent methods in heart rate measuring from remote face video analysis. Then the application to atrial fibrillation (AF) with the video-extracted HRV features is presented, together with a new Oulu Bio-Face (OBF) database as a benchmark dataset.

**Speaker Introduction**

Guoying Zhao is currently an Academy Professor (from Sep, 2021) and a full professor (tenured, from 2017) with the Center for Machine Vision and Signal Analysis, University of Oulu, Finland, where she was a senior researcher (2005-2007), Academy postdoctoral researcher (2008-2011), Academy research fellow (2011-2017) and Associate Professor (tenure track, 2014-2017). She received the Ph.D. degree in computer science from the Chinese Academy of Sciences, Beijing, China, in 2005. She got the Academy Postdoctoral position in 2007, was selected in 2011 to the highly competitive Academy Research Fellow position, and in 2020, she was selected to one of the ten Academy Professors. She has authored or co-authored more than 270 papers in journals and conferences, and has served as a reviewer for many journals and conferences. Her papers have currently over 16720+ citations in Google Scholar (h-index 60). She is Co-Program chair of ACM International Conference on Multimodal Interaction 2021 (ICMI), and Special Sessions/Panels Chairs for FG 2023. She was general chair for ICBEA (2019, 2020), Co-Chair for Late Breaking Results of ICMI 2019, co-publicity chair for FG 2018, has served as area chairs for several conferences and is associate editor for Pattern Recognition, IEEE Transactions on Circuits and Systems for Video Technology, and Image and Vision Computing Journals. She has lectured tutorials at FG 2018, ICPR 2006, ICCV 2009, and SCIA 2013, and authored/edited three books and nine special issues in journals. Dr. Zhao was a Co-Chair of many International Workshops / special sessions in top venues, such as ICCV, CVPR, ECCV, ACCV and FG. She was Nokia visiting professor in 2016 and Finland's most publishing researcher on AI in 2015-16. Her students and researchers are frequent recipients of very prestigious and highly competitive fellowships, such as Academy of Finland Postdoc position, the Nokia Scholarship, Endeavour Research Fellowship, Tauno Tönning Research funding, Kautia Foundation grant and Jorma Ollila grant. She is IAPR Fellow, AAIA Fellow, IEEE Senior Member. Her current research interests include image and video descriptors, gait analysis, dynamic-texture recognition, facial-expression recognition, human motion analysis, and person identification. Her research has been reported by Finnish TV programs, newspapers and MIT Technology Review.



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Day 2 Computer Vision

## Topic: Lightweight Deep Learning for Visual Information Analysis and Retrieval

**Prof. Anastasios Tefas**  
Aristotle University of Thessaloniki

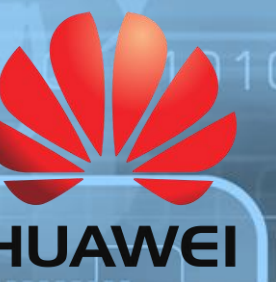
### Speaker Introduction

Anastasios Tefas received the B.Sc. in informatics in 1997 and the Ph.D. degree in informatics in 2002, both from the Aristotle University of Thessaloniki, Greece. Since 2017 he has been an Associate Professor at the Department of Informatics, Aristotle University of Thessaloniki. From 2008 to 2017, he was a Lecturer, Assistant Professor at the same University. From 2006 to 2008, he was an Assistant Professor at the Department of Information Management, Technological Institute of Kavala. From 2003 to 2004, he was a temporary lecturer in the Department of Informatics, University of Thessaloniki. From 1997 to 2002, he was a researcher and teaching assistant in the Department of Informatics, University of Thessaloniki. Dr. Tefas participated in 20 research projects financed by national and European funds. He is the Coordinator of the H2020 project OpenDR, "Open Deep Learning Toolkit for Robotics". He is Area Editor in Signal Processing: Image Communications journal. He has co-authored 135 journal papers, 255 papers in international conferences and contributed 17 chapters to edited books in his area of expertise. Over 7300 citations have been recorded to his publications and his H-index is 43 according to Google scholar. His current research interests include computational intelligence, deep learning, pattern recognition, machine learning, digital signal and image analysis and retrieval, computer vision and robotics. <https://cidl.csd.auth.gr>

### Abstract

The talk will cover the current research on lightweight deep learning models and their application to different domains. The focus will be on deep learning for visual information analysis and retrieval. Topics like knowledge transfer and discriminative regularization in deep learning will be covered. Finally, visual question answering, attention and active perception will be also discussed.

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Day 2 Computer Vision

## Topic: Video-language Representation Learning

**Prof. Cees Snoek**  
University of Amsterdam

### Speaker Introduction

Cees Snoek is a full professor in computer science at the University of Amsterdam, where he heads the Video & Image Sense lab. He is also a director of three public-private AI-research labs: QUVA lab with Qualcomm, Atlas lab with TomTom, and AIM lab with the Inception Institute of Artificial Intelligence. At University spin-off Kepler Vision Technologies he acts as Chief Scientific Officer. He is also the director of the master program in Artificial Intelligence and co-founder of the Netherlands Innovation Center for Artificial Intelligence. He was previously visiting scientist at Carnegie Mellon University and UC Berkeley, head of R&D at University spin-off Euvision Technologies, and managing principal engineer at Qualcomm Research Europe. His research interests focus on making sense of video and images. He has published over 200 refereed journal and conference papers, serves on the editorial board of IEEE Transactions on Pattern Analysis and Machine Intelligence and frequently serves as an area chair of the major conferences in computer vision and multimedia. Professor Snoek was the lead researcher of the award-winning MediaMill Semantic Video Search Engine, which was the most consistent top performer in the yearly NIST TRECVID evaluations for over a decade. He was general chair of ACM Multimedia 2016 in Amsterdam and initiator of the VideOlympics. Cees is recipient of an NWO Veni career award, a Fulbright Junior Scholarship, an NWO Vidi career award, and the Netherlands Prize for ICT Research. Together with his Ph.D. students and Post-docs, he has won several best paper awards.

### Abstract

In this talk I will present recent work from my lab on video-language representation learning, with an emphasis on spatio-temporal recognition and retrieval. It will cover convolutional models for pixel-level segmentation of actors and their actions from a natural language input sentence; Hyperbolic action networks that embed action hierarchies and videos for the purpose of seen and unseen activity retrieval; and an encoding that represents a pair of object tubelets as a composition of interaction primitives to classify and detect their relationship as a (subject-predicate-object) triplet.

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Day 2 Computer Vision

Topic: Paradoxes between Blockchain and GDPR

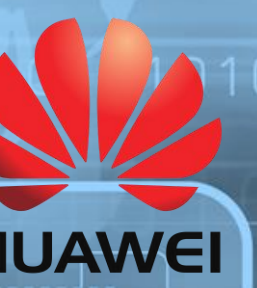
**Associate Professor A.K.M. Najmul Islam**  
LUT University

### Speaker Introduction

A.K.M. Najmul Islam is a tenure track Associate Professor of Digital Transformation at LUT University, Finland. He is a Docent of Information Systems Science at Tampere University, Finland. Dr. Islam holds a PhD (Information Systems Science) from the University of Turku, Finland. His current research focuses on responsible digital service design using blockchains & AI. Dr. Islam has published 110+ articles in journals and conferences. Dr. Islam has been ranked #9 in the world (for 2020) by AIS for publishing in the basket of 8 journals.

### Abstract

Although, blockchain based digital services promise trust, accountability, and transparency, multiple paradoxes between blockchains and GDPR have been highlighted in recent research. Professor Islam will talk about these paradoxes between GDPR and blockchains and explain possible solutions in order to develop blockchain-based responsible digital services that comply with the GDPR requirements. The talk will present the findings of a recently concluded project named “GDPR compliant blockchain service design and value creation” funded by Business Finland.



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Day 2 Computer Vision

Topic: Fine-grained Visual Recognition and Retrieval

**Prof. Jiri Matas**  
Czech Technical University in Prague

### Speaker Introduction

Prof. Jiri Matas, www page: <https://cmp.felk.cvut.cz/~matas/>, photo attached, BIO: Jiri Matas is a full professor at the Center for Machine Perception, Czech Technical University in Prague. He holds a PhD degree from the University of Surrey, UK (1995). He has published more than 250 papers in refereed journals and conferences. His publications have about 53000 citations registered in Google Scholar; his h-index is 85.

He received the best paper prize e.g. at the British Machine Vision Conferences in 2002 and 2005, at the Asian Conference on Computer Vision in 2007 and at Int. Conf. on Document analysis and Recognition in 2015. J. Matas has served in various roles at major international computer vision conferences (e.g. ICCV, CVPR, ICPR, NIPS, ECCV), co-chairing ECCV 2004, 2016, 2022 and CVPR 2007 and 2022. He is an Editor-in-Chief of IJCV and was an Associate Editor-in-Chief of IEEE T. PAMI. He served on the computer science panel of ERC.

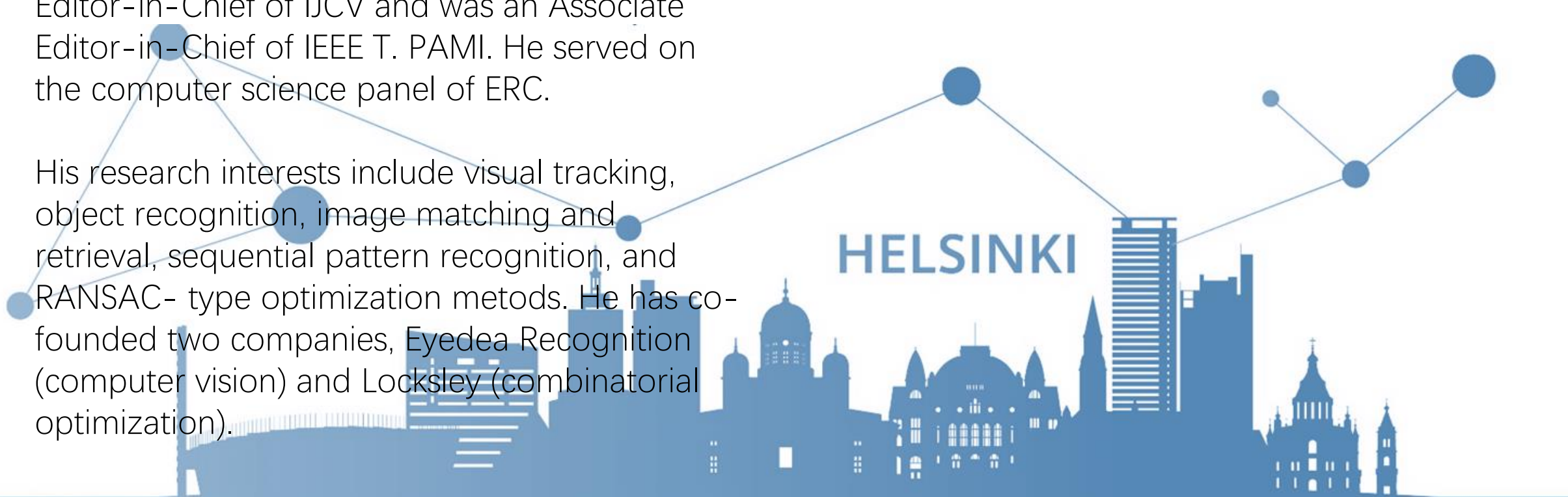
His research interests include visual tracking, object recognition, image matching and retrieval, sequential pattern recognition, and RANSAC- type optimization methods. He has co-founded two companies, Eyedea Recognition (computer vision) and Locksley (combinatorial optimization).

### Abstract

In the last decade, many areas of computer vision have progressed to a level supporting reliable, and sometimes impressive, applications. I will talk about two such domains, fine-grained recognition and visual retrieval. In the fine-grained recognition, I'll discuss the issue of prior probability shift, classifier calibration and the choice of loss functions driven by applications which are often not well aligned with what is common in the research community. The problem of image retrieval will be mentioned in the context of applications where both geometric reasoning and machine learning models are needed.



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