Conference

Policing in Smart Cities

Thursday 18th and Friday the 19th November 2021, Oslo at Kripos

Where : Oslo, Conference hall at Kripos, Nils Hansens vei 25.
Organizers : NTNU CCIS, BI, UIA (University of Agder) and Oslo Police District.
Target Group : People whom interested in smart cities and/or policing.
Participants : Ca 100 participants in total due to covid-19 restrictions.
Language : English.
Costs : 900 NOK.

Purpose with of conference:

- Contribute to increased knowledge and need for innovation and applied research for the development and use of technology related to police tasks. We will focus on methods, techniques, systems, opportunities, challenges and human aspects.
- Create an arena for joint learning, sharing, collaboration and networking.

- **Keywords**: Artificial Intelligence, Big Data, Crime, Cyberattacks/CyberCrime, Laws and Technology, Social Aspects, Innovation, Development, Demonstrations, Workshop/Breakout sessions, Future Thoughts, Digital Forensics, Robots, Spot, Drones, Snake Robots, Smart Cities, Sensors, Data analytics, Data fusion, 5G, IoT, Ethics, Anonymization, Crises, etc.

The cluster **"Policing in smart cities"** which consists of NTNU CCIS, UiA, BI and Oslo Police District collaborate in several areas and there is a joint effort on several ongoing research projects. In total, this cluster has many partners. Together we want to share parts of what we have learned so far and want we would like to learn more about. Examples can be how society is affected by "all the smart technologies" and how can the police provide experiences that are relevant to law enforcement? Further, in smart cities there exist very many different sensors and how can the police take advantage of these sensors that are also mobile when using robots that can "see, hear, smell and feel". We have seen many possibilities and constantly we meet new dilemmas.

Day # 1 – 18th of November 2021

08:00	**Registration and coffee**	
08:30	**Welcome** Bente Skattør, Oslo Police District	10 min
	Opening & Warm up - (chair: Bente Skattør)	**40 min**
	Technology in the Law Enforcement in Norway *Catherine Janson, Director of Police ICT Services*	15 min
	Interpol Smart City Think-a-thon Presentation: Fantasy Based on Reality We describe the 2018 INTERPOL Smart City Think-a-thon Competition, particularly NTNU's winning presentation. Our solution essentially was to apply a city-wide intelligent intrusion detection and prevention-like system as a component to smart cities. *Kyle Porter, Research Fellow and PhD Candidate, NTNU*	20 min
	What do you think about "Policing in Smart Cities"? 3 questions to be answered by you.	5 min
	Break – Coffee & Mingling	
10:00	**Smart Cities – Citizens' perspective** - (chairs: Lasse Øverlier, Bente Skattør)	**1h20min**
	Keynote - **AI and Citizens' Wellbeing: Perceptions, Paradoxes and Trade-Offs For the Future of Policing** AI increases data processing effectiveness in solving and preventing crime, but it also exacerbates surveillance fears and algorithmic bias, which causes social backlash against implementing AI policing practices. We discuss findings on citizens' evaluations of AI trade-offs and paradoxes they raise for the future of policing. *Associate Professor Matilda Dorotic, Tuan Do Viet and Carlos Eduardo Caldaz de Souza, BI Norwegian Business School*	40
	Smart with a Hearth - putting the People First in a Digital World Citizen needs and expectations are growing in line with the global smart city development. Will the future be challenge or solutions driven? *Stig Finnesand, CEO, Nordic Edge AS and Trygve A. Meyer, Head of Nordic Edge Smart City Innovation Cluster*	20 min
	Female Pedestrians' Perceived Safety in Urban Areas Research clearly shows that women in cities are the group that experiences the greatest fear of crime and violence and that this fear limits many in their mobility on foot. How can female pedestrians' fear of crime and violence in cities be addressed through urban planning and design? *Lina Naoroz Bråten, PhD Candidate, Department of Architecture and Planning, NTNU*	20 min
11:20	Lunch	45
12:15	**Street-level Situational Awareness –** (chairs: Matilda Dorotic, Kyle Porter)	1h10min
	Keynote - Experiences on Using Data from Mobile Network · From Research to Innovation All crises are catalysts for innovation. During covid-19, one of the radical innovations is the development and use of data from mobile networks for monitoring implemented measures and risk of spreading the virus. With mobility data, we get closer to the pulse of the city to develop safer societies. *Osman Ibrahim, Department manager strategy and development Agency for Emergency Planning in City of Oslo*	30
	Crime Prevention Though Planning and Design How to integrate physical security in the planning of public spaces and in building designs. Legal framework and drivers. *Mariann Dellnes, Security Advisor, Advansia*	20
	AI4citizens: Responsible AI for Citizen Safety in Future Smart Cities Current technological solutions still suffer from two important weaknesses: the intrusion of privacy and the aversion of public concerning its implementation and potential (ab)use. AI4citizens aim to address the algorithmic biases that technology has against certain groups of citizens, but also to overcome biases that citizens have against smart surveillance technologies. *Associate Professor Lasse Øverlien, NTNU CCIS*	20
13:25	Break – Coffee & Mingling	

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14:00	**First response and Crise Management** – (chairs: Bente Skattør, Lasse Øverlier)	**1h**
	Snake Robots – State-of-the-art Snake robots could enable applications in demanding real-life operations, such as explorations of earthquake-hit areas, pipe inspections, fire-fighting and search-and-rescue (SAR) activities. This talk will explore challenges and possibilities. *Associate Professor Filippo Sanfilippo, UiA MIL*	20 min
	Black Hornet, Why Small? The Black Hornet is the smallest operational UAV in military and Police use and has been since its introduction in 2012. In this presentation you will learn about experiences from real operations within the police. *Trond Jarle Roalstad, Director Sales, Lars Sørfang Director Sales Europe , Teledyne FLIR*	20 min
	The Role of Drones in Smart Cities - the Safe and Sustainable Way Drone technology offers the potential to change our world - from enabling historic transformations in e-commerce to faster emergency response. But the technology also has a dark side. It can be used to spy on us, to threaten our critical infrastructure, or to attack crowds and public places. *Jan Otto Johansen, Police Superintendent, Head of C-UAS, Oslo PD, Norwegian National Police*	20 min
15:00	Wrap-Up	
18:00	**Dinner Town** (Voluntary) at Aker Brygge, Restaurant Pastis Bistro Bar, Stranden 3 Please register on the list at the reception if you want to join before 13:00.	

Day # 2 – 19th of November 2021

08:00	**Registration and coffee**	
08:30	**Welcome** Bente Skattør, Oslo Police District	
08:35	**Sensors in the Cities** - (chairs: Kyle Porter, Bente Skattør)	2h
	Keynote - Cyber and Physical, Utility Functions in the Cities Main topic of this session is to explain how Blue Force and White Force can work together more effectively. We will discuss challenges, opportunities and take technological possibilities such as sensor fusion and AI. Our aim is to sketch out an environment for Policing in Smart Cities with the citizens wellbeing in mind. *Marco Krijgsman, Angelo Conigliello, Dell*	35 min
	The Sounds of the City Possibilities and challenges when using audio sensors in an open city environment. What does the law say? Should laws adapt to emerging technologies. *Truls Birkeland, Senior Engineer, Oslo Police district*	20 min
	Gunshot Detection in Cities using Machine Learning Ordinary smartphones transform into advanced sensors, locating gunshots, identifies weapon and calculates gunshot direction. AI power the Triangula system giving Smart Cities increased situation awareness and provides an advanced forensic tool *Allan Lochert, Triangula AS*	20 min
	Break – leg stretch	5 min
	Integration of Sensors on the SPOT Robot Presentation of the RadSeeker and LCD 3.3 sensors from Smiths Detection. Once deployed by or fitted to the SPOT robot, there are several ways to detect and receive detection data from the sensors Jørn Skyrud, KAM Trace Equipment, Petter Aspunvik, Integration Engineer, Sensec Solutions AS.	20 min
	Study on the De-identification of CCTV Footage: Current Progress and Future Plan In this presentation, the current research progress at CAIR, UiA, on the de-identification of CCTV footage is summarized. We also outline the research plan for the work package on anonymization in the AI4Citizen project. *Associate Professor Lei Jiao, University of Agder, CAIR*	20 min
10:30	Break – Coffee & Mingling (Make table and chairs ready for breakout session)	30 min
11:00	**Breakout session - Multi-Perspective Views of Safe Cities –** (chairs: Matilda Dorotic & Bente Skattør) Workshop **AI4citizens: Responsible AI for Citizen Safety in Future Smart Cities** - Introduce 'group work' - 4-6 persons in each group. - Workshop - round table discussions in breakout groups in order to dive into possibilities and dilemmas. - We would like everyone to join the discussions and answer questions.	1:30 h
12:30	**Lunch**	45 min
13:15	**Summary of Breakout Session**	15 min

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13:30	**Digital Twins and Future Developments –** (chairs: Lasse Øverlier, Bente Skattør)	**1h10min**
	Keynote – **A Number of Cyber Security and Privacy Challenges Arise When Integrating Cyber Physical Systems in a Smart City.** In this talk an overview of such challenges, current practices for addressing them, as well as areas open for research in the field will be provided. *Professor Sokratis Katsikas, NORCICS Director, NTNU*	30 min
	5G, an Enabler of OT in Commercial Networks 5G has the capabilities to host critical and operative communication in commercial networks. How can Police and other emergency services take the advantage of these benefits. What are the challenges? *Geir Myhre, Senior engineer, Police ICT services, Critical and Operative Communication*	20 min
	Multiparty Computation and Sensor Fusion *Professor Katrin Franke, NORCICS Vise Director, NTNU*	20 min
14:45	Closing and wrapping-up	