

Welcome to



ANT 2021

The 12th International Conference
on Ambient Systems,
Networks and Technologies



EDI40 2021

The 4th International Conference
on Emerging Data and
Industry 4.0

March 23 - 26, 2021
Warsaw, Poland

With support of

Hasselt University (Belgium) & Acadia University (Canada)



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ANT / EDI40 2021

SYMPOSIA AND WORKSHOPS AND TUTORIALS

ANT	The 12th International Conference on Ambient Systems, Networks and Technologies
EDI40	The th International Conference on Emerging Data and Industry 4.0
ABMTRANS	The 10th International Workshop on Agent-based Mobility, Traffic and Transportation Models, Methodologies and Applications
MADE	International Workshop on the Advancements Model Driven Engineering
ANTIFRAGILE	The 8th International Workshop “From Dependable to Resilient, from Resilient to Antifragile Ambients and Systems”
AMDE	The 2nd International Workshop on the Advancements Model Driven Engineering
BDBI	The 3rd International Workshop on Big Data and Business Intelligence
DDSW	The 2nd International Workshop on Data Driven Security
FAMS	The 10th International Symposium on Frontiers in Ambient and Mobile Systems
Hospital	The 2nd International Workshop on Hospital 4.0
IoT-T&A	The 5th International Workshop on Recent Advances on Internet of Things: Technology and Application Approaches
IUPT	The 11th International Symposium on Internet of Ubiquitous and Pervasive Things
IWSMAI	The 2nd International Workshop on Statistical Methods and Artificial Intelligence
MLBDACP	The 3rd International Workshop on Master Data Management
WSDM	The 2nd International Workshop on Web Search and Data Mining

PROGRAM AT A GLANCE

ANT 2021, EDI40 2021 and Workshops Program Time Slots

16:00-18:00	Registration	<i>Reception Foyer</i>				
		ROOM 1	ROOM 2	ROOM 3	ROOM 4	
		Wilanow I	Wilanow II	Gatrium	Husaria	

Timing	Wednesday 24 March 2021					
08:00-12:00	Registration	<i>Reception Foyer</i>				
09:15-09:30	Opening Ceremony	<i>Gatrium</i>				
09:30-10:30	Keynote Speaker I	Prof. Dr. Danny Hughes				
10:30-10:55	Coffee Break	<i>Galery IV</i>				
11:00-12:30	Technical Sessions (1)	ANT-S1	ANT-S2	ANT-S3	EDI40-S1	
12:30-13:25	LUNCH	<i>Marysienka</i>				
		<i>Gatrium</i>				
13:00-13:30		Prof. Dr. Eric J. Miller				
14:30-16:00	Technical Sessions (2)	ANT-S4	ANT-S5	ANT-S6	EDI40-S2	
16:00-16:25	Coffee Break	<i>Galery IV</i>				
16:30-18:30	Technical Sessions (3)	ANT-S7	ANT-S8	ABMTRANS-S1	Hospital	

Timing	Thursday 25 March 2021					
		<i>Room 1</i>				
09:30-10:30	Keynote Speaker II	Prof. Dr. Kay W. Axhausen				
10:30-10:55	Coffee Break	<i>Foyer Erasmus</i>				
11:00-12:30	Technical Sessions (4)	ANT-S9	ANT-S10	ANT-S11	EDI40-S3	
12:30-13:25	LUNCH	<i>Lunch Room</i>				
13:30-15:00	Technical Sessions (5)	ANT-S12	ANT-S13	ANT-S14		
15:00-15:25	Coffee Break	<i>Galery IV</i>				
15:30-17:00	Technical Sessions (6)	ANT-S15	DDSW	ABMTRANS-S2	AMDE-S1	
17:00-18:30		ANT-S16	FAMS	ABMTRANS-S3	AMDE-S2	
19:00-21:00	Banquet and Award Ceremony	<i>Marysienka</i>				

Timing	Friday 26 March 2021					
08:30-10:00	Technical Sessions (7)		AIW	ABMTRANS-S4	BDBI	
10:00-10:25	Coffee Break	<i>Galery IV</i>				
10:30-12:00	Technical Sessions (8)		IM	ABMTRANS-S5		
		End of Event				

KEYNOTE I

Self adaptive Software Systems are Essential for the Internet of Things

Prof. Dr. Danny Hughes

KU Leuven, Belgium

Abstract:

The Internet of Things is composed of tiny computers equipped with sensors, actuators and low power radios that are embedded in our physical environment. The number of Internet of Things devices is growing dramatically. Gartner predicts that by 2020 there will be over 20 billion deployed internet of things devices. By bridging the physical and digital worlds, the Internet of Things will enable radical efficiency gains across a wide range of industries. This talk will argue that self-adaptive software is essential to achieving the IoT vision. My talk will be illustrated throughout by real-world examples of the demand for self-adaptation in the Internet of Things, as drawn from my experiences as the Chief Technical Officer of VersaSense, an industrial Internet of Things company and spin-off of KU Leuven.

About the Speaker:

Dr. Hughes is the Chief Technical Officer of VersaSense NV, a KU Leuven spin-off company that provides end-to-end industrial Internet of Things solutions. He is also a Professor with the Department of Computer Science of KU Leuven (Belgium), where he is a member of the DistriNet (Distributed Systems and Computer Networks) research group and leads the Networked Embedded Software task-force. Danny has a PhD from Lancaster University (UK) and has previously worked at the University of California at Berkeley (USA), the University of Sao Paulo (Brazil) and Xi'an Jiaotong-Liverpool University (China).

KEYNOTE II

Agent-Based Microsimulation of Activity & Travel: The Toronto Case Study

Prof. Dr. Eric J. Miller
University of Toronto, Canada

Abstract:

This presentation provides an in-depth discussion of agent-based microsimulation (ABM) activity/travel demand modelling R&D at the University of Toronto, as incorporated within the TASHA (Travel/Activity Scheduler for Household Agents) model system. A brief history is provided of TASHA's development, leading to its current implementation as the operational travel demand forecasting system for a majority of planning agencies in the Toronto region. The theoretical structure of the model system is described. Practical considerations involved in implementing an ABM in a large-scale regional modelling application are discussed, as well as lessons learned to date concerning model design issues. In addition to the Toronto implementation, research-based applications to date in other cities (Helsinki, London, Melbourne, Sydney, and South American applications) are briefly described. These include interfacing TASHA with MATSim in the Helsinki and Melbourne implementations. The presentation concludes with a discussion of "where to from here" in terms of the next generation of ABM activity/travel demand modelling, in Toronto and elsewhere.

About the Speaker:

Professor Eric J. Miller (BASc, MASc University of Toronto; PhD Massachusetts Institute of Technology) has been a faculty member in the Department of Civil & Mineral Engineering, University of Toronto since 1983, where he is currently Director of the UofT Transportation Research Institute. He is Research Director of the University's Data Management Group (responsible for the largest travel survey data collection program in Canada), and the Travel Modelling Group (works closely with Toronto region transportation agencies in improving travel demand modelling operational practice). He is past-Chair of the US Transportation Research Board (TRB) Committee on Travel Behavior and Values and the International Association for Travel Behaviour Research (IATBR). He is a Member Emeritus of the TRB Transportation Demand Forecasting Committee. He is the recipient of the Institute of Transportation Engineers 2009 Wilbur S. Smith Distinguished Educator Award, the inaugural winner of the University of British Columbia Margolese National Design for Living Award (2012), and the IATBR Lifetime Achievement Award (2018).

KEYNOTE III

How Many AV Taxis Can Survive?

Prof. Dr. Kay W. Axhausen

Swiss Federal Institute of Technology, Switzerland

Abstract:

The talk will present results on the possible AV fleet sizes if they have to fully fund themselves. The background is a detailed agent-based simulation of the costs and usage of a fleet in Zürich. The simulation incorporates a detailed submodel of fleet dispatch and repositioning.

About the Speaker:

Dr. K.W. Axhausen has been Professor of Transport Planning at the Eidgenössische Technische Hochschule (ETH) Zürich (Swiss Federal Institute of Technology) since 1999. He holds his post in the Institute for Transport Planning and Systems of the Department of Civil, Environmental and Geomatic Engineering. Before his appointment at ETH he worked at the Leopold-Franzens Universität, Innsbruck, Imperial College London and the University of Oxford. He holds a PhD in Civil Engineering from the Universität Karlsruhe (now KIT) and an MSc from the University of Wisconsin – Madison.

He has been involved in the measurement and modelling of travel behaviour for the past 35 years contributing especially to the literature on stated preferences, micro-simulation of travel behaviour, valuation of travel time and its components, parking behaviour, accessibility impacts and travel behaviour measurement.

One strand of his current work focuses on the micro-simulation of daily travel behaviour and long-term mobility choices (See www.matsim.org for details). This work is supported by analyses of mobility tool ownership on the one hand and their dependence between activity spaces and the traveller's personal social network on the other hand.

The second strand of his work is dedicated to the evaluation of transport projects. He led the effort for the new Swiss cost-benefits guideline (SN 640 820ff) and of the recent German value of time study. Current work is on the one hand testing the possibility to replace complex models by simpler direct demand models and on the other hand tracing the long term implications of accessibility by modelling its change over the centuries.

He was the chair of the International Association of Travel Behaviour Research (IATBR) and is editor-in-chief of *Transportation* and earlier of *DISp*, both ISI indexed journals.

DETAILED PROGRAM

Tuesday, March 23, 2021

Registration 16:00-18:00

Location: Reception Foyer

Wednesday, March 24, 2021

Registration 08:30 – 12:00

Location: Reception Foyer

Opening 09:15 - 09:30

Opening Ceremony

Location: Main Meeting Room (Room 3: Gatrium)

Keynote I 09:30 - 10:30

Self adaptive Software Systems are Essential for the Internet of Things

Prof. Dr. Danny Hughes, KU Leuven, Belgium

Session Chair: Ansar Yasar, Hasselt University, Belgium

Location: Main Meeting Room (Room 3: Gatrium)

Coffee Break 10:30 - 10:55

Location: Galery IV

Technical Sessions 11:00 - 12:30

ANT Session: ANT-S1

Session Chair:

Location: Room 1

Delivery drone route planning over a battery swapping network

Taner Cokyasar

Comparison of parameters of ring and LC-tank digitally controlled oscillators in 0.13 μm CMOS

Marijan Jurgo, Vytautas Mačaitis, Karolis Kiela and Romualdas Navickas

Distributed-Reasoning for Task Scheduling through Distributed Internet of Things Controller

Ramin Firouzi, Rahim Rahmani and Theo Kanter

A Hybrid Agent-Based Simulation and Optimization Approach for Statewide Truck Parking Capacity Expansion

Sharif Mahmud, Amin Asadi, Annabelle R. LaCrue, Taslima Akter, Sarah Hernandez and Sarah Nurre Pinkley

ANT Session: ANT-S2

Session Chair:

Location: Room 2

Task Scheduling in Cloud Using Deep Reinforcement Learning

Shashank Swarupa, Elhadi M. Shakshuki, Ansar Yasar

The Efficiency of Learning Methodology for Privacy Protection in Context-aware Environment during the COVID-19 Pandemic

Ranya Alawadhi and Tahani Hussain

From Raw Pedestrian Trajectories to Semantic Graph Structured Model: Towards an end-to-end spatiotemporal analytics framework

Lamia Karim, Azedine Boulmakoul and Karine Zeitouni

Vehicle-Pedestrian Interaction: Distributed intelligence framework

Azedine Boulmakoul, Lamia Karim and Ahmed Lbath

ANT Session: ANT-S3

Session Chair:

Location: Room 3

The Turning Movement Estimation In Real Time (TMERT) Model: Lower Bound Constraint Calibration

Jelena Karapetrovic and Peter Martin

Imputation of Missing Traffic Flow Data Using Denoising Autoencoders

Boyuan Jiang, Muhammad Danial Siddiqi, Reza Asadi and Amelia Regan

Human-computer interaction in foreign language learning applications: Applied linguistics viewpoint of mobile learning

Marcel Pikhart

pyEDA: An Open-Source Python Toolkit for Pre-processing and Feature Extraction of Electrodermal Activity

Seyed Amir Hossein Aqajari, Emad Kasaeyan Naeini, Milad Asgari Mehrabadi, Sina Labbaf, Nikil Dutt and Amir M. Rahmani

EDI40 Session: EDI40-S1

Session Chair:

Location: Room 4

Using Deep Learning Model for Adapting and Managing COVID-19 Pandemic Crisis

Mohammad Alodat

An ensemble machinery monitoring solution towards realizing the Industry 4.0 vision in a real environment

Athanasios Naskos, Nikodimos Nikolaidis, Vasileios Naskos, Anastasios Gounaris, Daniel Caljouw and Cosmas Vamvalis

Crafting Adversarial Samples for Anomaly Detectors in Industrial Control Systems

Ángel Luis Perales Gómez, Lorenzo Fernández Maimó, Alberto Huertas Celdrán, Félix Jesús García Clemente and Frances Cleary

Lunch

12:30 - 13:25

Location: Marysienka Room

Keynote II

13:30 - 14:25

Agent-Based Microsimulation of Activity & Travel: The Toronto Case Study

Prof. Dr. Eric J. Miller, Toronto University, Canada

Session Chair: Stéphane Galland, UTBM, France

Location: Main Meeting Room (Room 3: Gatrium)

Technical Sessions**14:30 - 16:00****ANT Session: ANT-S4****Session Chair:****Location:** Room 1

Hyperparameter Tuning to Optimize Implementations of Denoising Autoencoders for Imputation of Missing Spatio-temporal Data

Muhammad Siddiqi, Boyuan Jiang, Reza Asadi and Amelia Regan

Incorporating Passenger Load in Public Transport Systems and its Implementation in Nationwide Models

Jens Hellekes and Christian Winkler

Address-based computation of intra-cell distances for travel demand models

Matthias Heinrichs, Rita Cyganski and Daniel Krajzewicz

Configuration and Governance of Dynamic Secure SDN

Mohammed Alabbad and Ridha Khedri

ANT Session: ANT-S5**Session Chair:****Location:** Room 2

Lightweight PPG Quality Assessment for Real-time IoT-based Health Monitoring using Unsupervised Anomaly Detection

Aysan Mahmoudzadeh, Iman Azimi, Amir M. Rahmani and Pasi Liljeberg

The Impact of Arabic Part of Speech Tagging on Sentiment Analysis: A New Corpus and Deep Learning Approach

Abdul Munem Nerabie, Manar Alkhatib, Sujith Samuel Mathew, May El Barachi and Farhad Oroumchian

Conceptual design of a trust model for perceptual sensor data of autonomous vehicles

Lauri Halla-Aho, Ethiopia Nigussie and Jouni Isoaho

Agent-based simulation from anonymized data: An application to Lille metropolis

Azise Oumar Diallo, Arnaud Doniec, Guillaume Lozenguez and René Mandiau

ANT Session: ANT-S6**Session Chair:****Location:** Room 3

Pre-calibration of a Discrete Choice Model and Evaluation of Cycling Mobility for Île-de-France

Guoxi Feng, Maxime Jean, Alexandre Chasse and Sebastian Hörl

Integrating Urban Last-Mile Package Deliveries into an Agent-Based Travel Demand Model

Anna Reiffer, Jelle Kübler, Lars Briem, Martin Kagerbauer and Peter Vortisch

Validation of a Predictive Fire Risk Indication Model using Cloud-based Weather Data Services

Ruben Dobler, Lars Michael Kristensen and Torgrim Log

Fog-cloud assisted framework for Heterogeneous Internet of Healthcare Things

Rashmi Chaudhry and Shivani Sharma

EDI40 Session: EDI40-S2**Session Chair:****Location:** Room 4

AI-Based Object Detection for Processes in Smart Factories

Lukas Malburg, Manfred-Peter Rieder, Ronny Seiger, Patrick Klein and Ralph Bergmann

Towards Data-Driven Reliability Modeling for Cyber-Physical Production Systems

Jonas Friederich and Sanja Lazarova-Molnar

Requirements towards optimizing analytics in industrial processes

Alexander Zeiser, Bas van Stein and Thomas Bäck

Coffee Break**1600 - 16:25****Location:** Galery IV

ANT Session: ANT-S7

Session Chair:

Location: Room 1

Modeling intermodal travel behavior in an agent-based travel demand model

Tim Wörle, Lars Briem, Michael Heilig, Martin Kagerbauer and Peter Vortisch

The Impact of a New Public Transport Line on Parking Behaviour

Elisabeth Fokker, Thomas Koch and Elenna Dugundji

A smart dynamic crowd evacuation system for exhibition centers

Faouzi Kamoun, May El Barachi, Fatna Belqasmi and Abderrazak Hachani

Using Barcode to Track Student Attendance and Assets in Higher Education Institutions

Salah Elaskari, Muhammad Imran, Abdurrazag Elaskri and Abdullah Almasoudi

Does Pedestrian Penalty Affect Pedestrian Behavior? A Case of the State of Qatar

Deepti Muley, Mohamed Kharbeche, Omar Ghonim, Ahmed Madkoor and Yousef Mohamed

A GRNN-based Approach towards Prediction from Small Datasets in Medical Application

Ivan Izonin, Roman Tkachenko, Michal Gregus Ml., Khrystyna Zub and Pavlo Tkachenko

ANT Session: ANT-S8

Session Chair:

Location: Room 1

Analysis of gap parameters for the estimation of single lane roundabouts' capacity in the State of Qatar

Abdulkarim Almukdad, Mustafa Almallah, Qinaat Hussain, Wael Alhajyaseen, Naeem Albeitjali and Mohammed Alqaradawya

STS-EPR: Modelling individual mobility considering the spatial, temporal, and social dimensions together

Giuliano Cornacchia and Luca Pappalardo

Understanding the dynamics of initial trust in password managers' adoption intention

Ali Farooq, Alina Dubinina, Seppo Virtanen and Jouni Isoaho

CLONE: Collaborative Ontology Editor as a Service in the Cloud

Alexandros Preventis and Euripides Petrakis

Forecasting Public Transport Ridership: Management of Information Systems using CNN and LSTM Architectures

Sergey Khalil, Chintan Amrit, Thomas Koch and Elenna Dugundji

PPG-KeyGen: Using Photoplethysmogram for Key Generation in Wearable Devices

Sanaz Rahimi Moosavi

ABMTRANS Workshop: ABMTRANS-S1

Session Chairs: Luk Knaben & Ansar Yasar, Hasselt University, Belgium

Location: Room 3

Explorative analysis of potential MaaS customers: an agent-based scenario

Carolina Cisterna, Giulio Giorgione and Francesco Viti

Quantifying Health & Economic Benefits of Bicycle Superhighway: Evidences from Patna

Amit Agarwal

Hermes: An efficient and scalable MATSim simulator

Dan Graur, Rodrigo Bruno, Joschka Bischoff, Marcel Rieser, Wolfgang Scherr, Torsten Hoefler and Gustavo Alonso

Towards a more realistic simulation of public transit: Generating transit schedules with vehicle circulations

Gero Marburger, Ihab Kaddoura and Kai Nagel

Hospital Workshop

Session Chairs: Manuel Filipe Santos, University of Minho, Portugal

Location: Room 4

Architecture for Intensive Care Data Processing and Visualization in Real-time

Ricardo Cruz, Hugo Peixoto, Tiago Guimarães, Manuel Filipe Santos

Development of FHIR based web applications for appointment management in healthcare

António Chaves, Hugo Peixoto, Tiago Guimarães, José Machado

Implementation of the Information Model of an healthcare institution based on openEHR

Daniela Rijo, António Abelha, José Machado

mHealth – Monitoring Platform for Diabetes patients

Ana Luisa Sousa, João Lopes, Tiago Guimarães, Manuel Filipe Santos

An ABI platform and its contributions as a support in the evolution to Hospital 4.0

João Braga, João Lopes, Bruno Magalhães, Manuel Santos

Health professionals decision making based on multichannel interaction services

Ailton Moreira, Manuel Filipe Santos

Thursday, March 25, 2021

Keynote III 09:30 - 10:30

How Many AV Taxis Can Survive?

Prof. Dr. Kay W. Axhausen, Swiss Federal Institute of Technology, Switzerland

Session Chair: Luk Knapen, Hasselt University, Belgium

Location: Main Meeting Room (Room 3: Gatrium)

Coffee Break 10:30 - 10:55

Location: Galery IV

Technical Sessions 11:00 - 12:30

ANT Session: ANT-S9

Session Chair:

Location: Room 1

Connecting the Twins: A Review on Digital Twin Technology & its Networking Requirements

Maggie Mashaly

Quranic Education and Technology: Reinforcement learning System for Non-Native Arabic Children

Bayan M. Alsharbi, Omar Mubin and Mauricio Novoa

KAPPA as Drift Detector in Data Stream Mining

Osama A. Mahdi, Eric Pardede and Nawfal Ali

Task Offloading Scheduling in Mobile Edge Computing Networks

Zhonglun Wang, Peifeng Li, Shuai Shen and Kun Yang

ANT Session: ANT-S10

Session Chair:

Location: Room 2

Ambient access control for smart spaces: dynamic guidance and zone configuration

Seán Óg Murphy, Liam O'Toole, Luis Quesada, Ken Brown and Cormac Sreenan

Bicycle Parking in Station Areas in the Netherlands

Jullian van Kampen, Luk Knapen, Eric Pauwels, Rob van der Mei and Elenna Dugundji

Analysis of information quality for a usable information system in agriculture domain: a study in the Sri Lankan context

R.S.I. Wilson, J.S. Goonetillake and W.A. Indika

An Optimal Learning Model for Training Expert System to Detect Uterine Cancer

Tanjim Mahmud, Juel Sikder, Umme Salma, Sajib Tripura, Jannat Fardoush, Sultana Rokeya Naher and Nahed Sharmen

ANT Session: ANT-S11

Session Chair:

Location: Room 3

GeoAKOM: A Smart Geocasting Protocol for Vehicular Networks

Ezgi Tetik Sağlam, Yusuf Yaslan and Sema Oktug

Sensitivity analysis on a dynamic coupling model for V2V communication distance control

Darko Frtunik, Amolika Sinha, Hanna Grzybowska, Navreet Viridi and Travis Waller

Predicting Lessee Switch Behavior using Logit Models

Jan-Willem Feilzer, Daan Stroosnier, Thomas Koch and Elenna R. Dugundji

Regionalization for urban air mobility application with analyses of 3D urban space and geodemography in San Francisco and New York

Namwoo Kim and Yoonjin Yoon

EDI40 Session: EDI40-S3

Session Chair:

Location: Room 4

Input Doubling Method based on SVR with RBF kernel in Clinical Practice: Focus on Small Data

Ivan Izonin, Roman Tkachenko, Michal Gregus, Khrystyna Zub and Nataliia Lotoshynska

Exploring Distance Based Approaches for Reducing Sensor Data in Defect Related Prognosis

Selvine George Mathias, Daniel Grossmann and Tapanta Bhanja

A Comparative Study on Fuzzy Clustering for Cloud Computing. Taking Web Service as a case

Choukri Djellali, Mehdi Adda and Mohamed Tarik Moutacalli

Lunch

12:30 - 13:25

Location: Marysienka Room

Technical Sessions

13:30 - 15:00

ANT Session: ANT-S12

Session Chair:

Location: Room 1

L-PECS: Application for inclusive work environments

Paulina Lagos, Rubén Baeza, Oscar Pinto, David Ruete-Zuñiga, Diego Fuentealba, Gustavo Gatica and Giannina Costa

Towards a Digital Twin model for Building Energy Management: Case of Morocco

Abdelali Agouzoul, Mohamed Tabaa, Badr Chegari, Emmanuel Simeu, Abbas Dandache and Karim Alami

Investigating the Acceptance of Flipped Classroom and Suggested Recommendations

Tariq Abuhilal, Salam Hoshang and Hasan Abuhilal

Distributed Reasoning with SDN Based Federated Learning for Edge computing

Ramin Firouzi, Rahim Rahmani and Theo Kanter

ANT Session: ANT-S13

Session Chair:

Location: Room 2

An Activity Based integrated approach to model impacts of parking, hubs and new mobility concepts

Luk Knapen, Muhammad Adnan, Bruno Kochan, Tom Bellemans, Marieke van der Tuin, Han Zhou and Maaïke Snelder

Development of an Object Recognition Algorithm Based on Neural Networks With Using a Hierarchical Classifier

Van Trong Nguyen and Fedor Fedorovich Paschenko

A Review of Access Control Metamodels for IoT and non-IoT Systems

Nadine Kashmar, Mehdi Adda and Hussein Ibrahim

Parameters Influencing Lane Flow Distribution on Multilane Freeways in PTV Vissim

Claude Marie Weyland, Marvin V. Baumann, H. Sebastian Buck and Peter Vortisch

ANT Session: ANT-S14

Session Chair:

Location: Room 3

Long Short-Term Memory Approach for Routing Optimization in Cloud ACKnowledgement Scheme for Node Network

Siddardha Kaja, Elhadi M. Shakshuki, Ansar Yasar

A reactive system for pedestrian mobility simulation

Mohamed Nahri, Azedine Boulmakoul and Lamia Karim

Development of a decision support tool for sustainable urban logistics optimization

Paul Eric Dossou and Axel Vermersch

Synthesizing the Evolution of Multimodal Transportation Planning milestones in Indian Cities

Nandan Dawda, Gaurang Joshi and Shriniwas Arkatkar

Coffee Break

1500 - 15:25

Location: Galery IV

ANT Session: ANT-S15**Session Chair:****Location: Room 1**

Limitations of Recursive Logit for Inverse Reinforcement Learning of Bicycle Route Choice Behavior in Amsterdam

Thomas Koch and Elenna Dugundji

Analysis of the needs of small towns and municipalities in the field of SMART services

Peter Balco, Dorota Kosecka and Peter Bajzik

Urban Crowd-Logistics - Monetary compensation and willingness to work as occasional driver

Felix Neudoerfer, Andreas Mladenow and Christine Strauss

A Hybrid Data-driven Model for Intrusion Detection in VANET

Hind Bangui, Mouzhi Ge and Barbora Buhnova

DDSW Workshop: DDSW**Session Chair:****Location: Room 2**

Spam e-mail detection using deep learning techniques

Israa Abdulnabi and Qussai Yaseen

Android Malware Detection Using Deep learning

Omar N. Elayan and Ahmad M. Mustafa

DeepDroiddet: Android Malware Detection Based on Recurrent Neural Network

Mothanna Almahmoud and Dalia Alzu'bi

ABMTRANS Workshop: ABMTRANS-S2**Session Chairs:** Luk Knappen & Ansar Yasar, Hasselt University, Belgium**Location: Room 3**

Modeling Crossroads in MATSim: the Case of Traffic-Signaled Intersections

Aurore Sallard and Milos Balac

Integrating discrete choice models with MATSim scoring

Sebastian Hörl

Environmental Equity Analysis in Agent-Based Transport Simulations: A Study on Causation and Exposure

Nico Kuehnel, Wei-Chieh Huang and Rolf Moeckel

Introducing the eqasim pipeline: From raw data to agent-based transport simulation

Sebastian Hörl and Milos Balac

AMDE Workshop: AMDE-S1**Session Chairs:** Yassine Rhazali, ESTM, UMI, Morocco**Location: Room 4**

Applying a MDA- based approach for enhancing the validation of business process models

Nemury Silega Martínez and Manuel Noguera

Transformation of Struts Model to Codeigniter

Amine Moutaouakkil and Samir Mbarki

Model-based Testing and Monitoring using AgileUML

Kevin Lano, Kunxiang Jin and Shefali Tyagi

Automatic generation of Web service for the Praxeme software aspect from the ReLEL requirements model

Rapatsalahy Miary Andrianjaka, Mihaela Ilie, Thomas Mahatody, Sorin Ilie and Raft Razafindrakoto

Technical Sessions**17:00 - 18:30****ANT Session: ANT-S16****Session Chair:****Location:** Room 1

SafeMobility: An IoT- based System for safer mobility using machine learning in the age of COVID-19

Diana Yacchirema and Chura Arturo

Applying transfer learning and various ANN architectures to predict transportation mode choice in Amsterdam

Ruurd Buijs, Thomas Koch and Elenna Dugundji

Envisioning Model-Based Performance Engineering Frameworks

Davide Arcelli

Assessment of the Traffic Enforcement Strategies Impact on Emission Reduction and Air Quality

Moulay Youssef El Hansali, Siham Farrag, Ansar Yasar, Haroon Malik, Elhadi Shakshuki and Khalid Al-Abri

FAMS Symposium: FAMS**Session Chair:****Location:** Room 2

Evaluating Impact of Mobile Applications on EFL University Learners' Vocabulary Learning – A Review Study

Klímová Blanka

A Novel Frame-Slotted ALOHA Algorithm for Radio Frequency Identification System in Supply Chain Management

Kamalendu Pal

Recent Advances in Machine-Learning Driven Intrusion Detection in Transportation: Survey

Hind Bangui and Barbora Buhnova

Access Control Metamodel for Policy Specification and Enforcement: From Conception to Formalization

Nadine Kashmar, Mehdi Adda, Mirna Atieh and Hussein Ibrahim

Application of the Basic Principles of "Industry 4.0" in the Intellectualization of Automated Control Systems of Modern Thermal Power Plants

Edik Arakelyan, Alecsadr Andryushin, Sergey Mezin and Anatoly Kosoy

ABMTRANS Workshop: ABMTRANS-S3**Session Chairs:** Luk Knapen & Ansar Yasar, Hasselt University, Belgium**Location:** Room 3

Methodology for Determining Charging Strategies for Freight Traffic Vehicles based on Traffic Simulation Results

Ricardo Miranda Jahn, Anne Syré, Alexander Grahle, Kai Martins-Turner and Dietmar Göhlich

A data-driven approach to run agent-based multi-modal traffic simulations on heterogeneous CPU-GPU hardware

Aleksandr Saprykin, Ndaona Chokani and Reza S. Abhari

Agent-based simulation to assess the impact of electric vehicles on the power networks: Swindon Borough Case Study

Maria Silva Pedro, Jeff Hardy and Koen van Dam

Open-Source Web-Based Visualizer for Dynamic-Response Shared Taxi Simulations

William Charlton, Gregor Leich, Ihab Kaddoura and Kai Nagel

AMDE Workshop: AMDE-S2**Session Chairs:** Yassine Rhazali, ESTM, UMI, Morocco**Location:** Room 4

Ethereum's Smart Contracts Construction and Development using Model Driven Engineering Technologies : a Review

Yassine Ait Hsain, Naziha Laaz and Samir Mbarki

Metamodel based approach to generate user interface mockup from UML class diagram

Thomas Mahatody, Mihaela Ilie, Rapatsalahy Miary Andrianjaka, William Germain Dimbisoa and Sorin Ilie

Towards an automatic model-based Scrum Methodology

Salim Chantit and Imane Essebaa

Apache Hadoop-MapReduce on YARN framework latency

El Yazidi Abdelaziz, Mohamed Saad Azizi, Ben Lachmi Yassin and Moulay Lahcen Hasnaoui

Banquet and Award Ceremony 19:00 - 21:00**Location:** Marysienka Room

Friday, March 26, 2021

Technical Sessions 08:30 – 10:00

AntiFragile/IoT-T&A/IUPT/WSDM Workshops: AIIW

Session Chair:

Location: Room 2

The Philosophy of Residuality Theory

Barry M O'Reilly

6MID: Mircochain based Intrusion Detection for 6LoWPAN based IoT networks

Himanshu B. Patel and Dr. Devesh C. Jinwala

To Ameliorate Classification Accuracy using Ensemble Distributed Decision Tree (DDT) Vote Approach: An Empirical discourse of Geographical Data Mining

Sheikh Amir Fayaz, Majid Zaman and Muheet Ahmed

Quantitative Weighting Approach for Non-TI Clustering

Sanjit Kumar Saha , Ingo Schmitt

ABMTRANS Workshop: ABMTRANS-S4

Session Chairs: Luk Knapen & Ansar Yasar, Hasselt University, Belgium

Location: Room 3

Ride-Pooling Efficiency in Large, Medium-Sized and Small Towns - Simulation Assessment in the Munich Metropolitan Region

Felix Zwick, Nico Kuehnel, Rolf Moeckel and Kay W. Axhausen

Behavioural sensitivity towards emission concepts

Ruan J. Gräbe and Johan W. Joubert

Sensitivity of the urban transport system to the value of travel time savings for shared autonomous vehicles: A simulation study

Benoit Lecureux and Ihab Kaddoura

A South African scenario for emissions modelling

Johan W. Joubert and Ruan J. Gräbe

BDBI Workshop: BDBI

Session Chairs: Luk Knapen & Ansar Yasar, Hasselt University, Belgium

Location: Room 4

Artificial intelligence hybrid models for improving forecasting accuracy

Nisrine Zougagh, Abdelkabar Charkaoui and Abdelwahed Echchatbi

A Graphical Conceptual Model for Conventional and Time-varying JSON Data

Zouhaier Brahmia, Fabio Grandi, Safa Brahmia and Rafik Bouaziz

Using Machine Learning to Predict Outcomes of Accident Cases in Moroccan Courts

Haidar Aissa, Ahajjam Tarik, Imad Zeroual, Farhaoui Yousef

Artificial Intelligence and Machine Learning to Predict Student Performance during the COVID-19

Ahajjam Tarik, Haidar Aissa, Farhaoui Yousef

Coffee Break 10:00 – 10:25

Location: Foyser Husaria

Technical Sessions 10:30 – 12:00

IWSMAI/MLBDACP Workshops: IM

Session Chair:

Location: Room 2

Skill mismatch evidence for Cybersecurity skills in Morocco

Ibtissam Makdouna, Ibrahim Rahhal, Ghita Mezzour , Ismail Kassoua, Kathleen M Carley

Designing WiMAX Static Environment using Local Automata based Autonomic Network Architecture for Wireless Sensor Networks

Sanjay Nagendra, Shaila K, Venugopal K R

An Automated Post-Mortem Analysis of Vulnerability Relationships using Natural Language Word Embeddings

Benjamin Meyers and Andrew Meneely

Towards Explainable CNNs for Android Malware Detection

Martin Kinkead, Stuart Millar, Niall McLaughlin and Philip O'Kane

ABMTRANS Workshop: ABMTRANS-S5

Session Chairs: Luk Knapen & Ansar Yasar, Hasselt University, Belgium

Location: Room 3

The impact of trip density on the fleet size and pooling rate of ride-hailing services: A simulation study

Ihab Kaddoura and Tilmann Schlenker

Automatic generation of traffic signals and lanes for MATSim based on OpenStreetMap

Theresa Ziemke and Söhnke Braun

A concept agent-based simulation model to evaluate the impacts of a shared space network

Panagiotis G. Tzouras, Christos Karolemeas, Efthimios Bakogiannis and Konstantinos Kepaptsoglou

Expanding the analysis scope of a MATSim transport simulation by integrating the FEATHERS activity-based demand model

Dominik Ziemke, Luk Knapen and Kai Nagel

END of Event