

The Sixteenth International Conference on Future Computational Technologies and Applications
FUTURE COMPUTING 2024
April 14, 2024 to April 16, 2024 - Venice, Italy

Submit a Contribution
Registration
Camera Ready

Deadlines

Submission Feb 15, 2024
Notification Feb 23, 2024
Registration Mar 09, 2024
Camera Ready Mar 14, 2024

Deadlines differ for special tracks. Please consult the conference home page for special tracks Call for Papers (if any).

Past Events

Sponsors



Publication

Published by IARIA Press (operated by IARIA Publishing Services)
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Prints available at Quinlan Associates, Inc.
Authors of selected papers will be invited to submit extended versions to a IARIA Journal
Indexing Procedure

Affiliated Journals



ComputationWorld 2024 Congress

Conference will be mixed online and on location at
NOVOTEL VENEZIA MESTRE CASTELLANA
Via Caccini 21
30174 VENEZIA MESTRE
ITALY

Note: This event is a mix of online and on site participation. All contributions are posted below; those presenting onsite have their own schedule, as a subset of the entire program.

Opening Welcome

On Site Program

Timezone converter: <https://www.worldtimebuddy.com>

Tutorials

T1. Future AI Systems & Temporal Knowledge Graph Completion - On Site
Dr. Steve Chan, VTIPL, YTH-PAC, USA
- presentation slides
- video presentation
- summary
- short bio

Practical Overview

P01. Where AI Could be Used and Where it Couldn't - On Site
Prof. Dr. Peter Dini, IARIA, USA/EU
- presentation slides
- video presentation
- summary
- short bio

Keynote Speeches

K1. Production Systems as Cloud-Based Applications - On Site
Prof. Dr. Christoph P. Neumann, Ostbayerische Technische Hochschule Amberg-Weiden, Germany
- presentation slides
- video presentation
- short bio

K2. Combining DevOps and Normalized Systems Toward Software Rejuvenation Factories - On Site
Prof. Dr. Hans-Werner Sahrning, NORDAKADEMIE gAG, Germany
- presentation slides
- video presentation
- short bio

K3. Counterpoising Ambiguity/Uncertainty for AI Systems - On Site

Dr. Steve Chan, VTIPL, YTH-PAC, USA

- presentation slides

- video presentation

- short bio

K4. Urban Air Mobility - A New Frontier - On Site

Prof. Dr. Kamesh Namuduri, University of North Texas, USA

- presentation slides

- video presentation

- short bio

K5. Urban Air Mobility - A New Frontier - On Site

Prof. Dr. Hans-Werner Sahrning, NORDAKADEMIE gAG, Germany

- presentation slides

- video presentation

- short bio

Open Discussion

O1. Adapting for a Generative-AI World - On Site

Coordinators:

Dr. Steve Chan, VTIPL, YTH-PAC, USA

Prof. Dr. Hans-Werner Sahrning, NORDAKADEMIE gAG, Germany

- presentation slides

Panels

Sunday, April 14 | 3:00pm - 5:00pm

P1. Theme: AI-based Computation Technologies - Benefits and Warnings - On Site

Moderator: Dr. Steve Chan, VTIPL, YTH-PAC, USA

Panelists:

Prof. Dr. Guido Russo, University of Naples Federico II, Italy

Dr. Steve Chan, VTIPL, YTH-PAC, USA

Prof. Dr. Peter Dini, IARIA, USA/EU

- presentation slides

Tuesday, April 16 | 2:00pm - 4:00pm

P2. Theme: Systems Vulnerabilities - Software and Hardware Cybersecurity Concerns - On Site

Moderator: Prof. Dr. Andreas Altmuth, Technical University of Applied Sciences OTH Amberg-Weiden, Germany

Panelists:

Lieutenant Colonel Dr. Gerhard Schwarz, Bundeswehr (German Armed Forces), Germany

Dr. Steve Chan, VTIPL, YTH-PAC, USA

Dr. Mika Helsingius, Finnish Defence Research Agency, Finland

Prof. Dr. Andreas Altmuth, Technical University of Applied Sciences OTH Amberg-Weiden, Germany

- presentation slides

Tuesday, April 16 | 6:30pm - 8:30pm

P3. Theme: Readiness - Raising of Digital Technologies - On Site

Moderator: Prof. Dr. Henning Mannert, University of Antwerp, Belgium

Panelists:

Prof. Dr. Hans-Werner Sahrning, NORDAKADEMIE gAG, Germany

Dr. Geert Haerens, Faculty of Applied Economics Antwerp University, Belgium

Dpl. Ing. Andrey Vukobratovic, Elettra Sincrotrone Trieste, Italy

Dr. Aurélie Mallou, ULN, France

Prof. Dr. Henning Mannert, University of Antwerp, Belgium

- presentation slides

Wednesday, April 17 | 6:30pm - 8:15pm

P4. Theme: Training and Education through Virtual Reality - Boosting Digital Cognition and AI Literacy - On Site

Moderator: Prof. Dr. Hans-Werner Sahrning, NORDAKADEMIE gAG, Germany

Panelists:

Dr. Mika Helsingius, Finnish Defence Research Agency, Finland

Dr. Yasmina Kébir, University of Lorraine, France

Prof. Dr. Hans-Werner Sahrning, NORDAKADEMIE gAG, Germany

Prof. Dr. Peter Dini, IARIA, USA/EU

- presentation slides

Thursday, April 18 | 10:15am - 12:00pm

P5. Theme: Adaptability at Work - Coping with Systems Complexity, Scalability, and High-Speed Communications - On Site

Moderator: Dr. Melanie Schranz, Lakeside Labs GmbH, Österreich

Panelists:

Prof. Dr. Kamesh Namuduri, University of North Texas, USA

Prof. Dr. Hans-Werner Sahrning, NORDAKADEMIE gAG, Germany

Dr. Melanie Schranz, Lakeside Labs GmbH, Österreich

Prof. Dr. Peter Dini, IARIA, USA/EU

- presentation slides

Special Sessions

AIVR 1 / FAME: Fashion for Metaverse

Introduction

Lorenzo Stacchio, Pasquale Casarano

- presentation slides / editorial

AI for Enhancing and Preserving Dance Cultural Heritage: a Case Study on Rudolf Nureyev's Costumes

Silvia Garavito, Pasquale Casarano, Lorenzo Stacchio

- presentation slides / video / full article in *Thelamind Digital Library*

Photogrammetry and 360° Virtual Tours: Differences, Relevance, and Future Possibilities

Irene Galvi, Eleonora Stacchiotti, Pasquale Casarano

- presentation slides / video / full article in *Thelamind Digital Library*

CLOUD COMPUTING 1 / AICLOUDSEC II: AI - Curse or Blessing for the Security of Cloud Services?

Introduction

Andreas Altmuth, Sebastian Fischer, Christoph P. Neumann

- presentation slides / editorial

Towards Multi-Domain Multi-Tenant Situational Awareness Systems

Tobias Eggendorfer, Gerhard A. Schwarz

- presentation slides / video / full article in *Thelamind Digital Library*

Security Enforcement Within Multiple Shared Information Space Environments [PRESENTATION]

Gerhard Schwarz

- presentation slides / video

Distinguishing Tor From Other Encrypted Network Traffic Through Character Analysis

Pijpim Choochod, Tobias J. Bauer, Andreas Altmuth

- presentation slides / video / full article in *Thelamind Digital Library*

Automated Vulnerability Scanner for the Cyber Resilience Act

Sandro Falter, Gerald Bruks, Max Weiss, Sebastian Fischer

- presentation slides / video / full article in *Thelamind Digital Library*

CLOUD COMPUTING 2 / AICLOUDSEC II: AI - Curse or Blessing for the Security of Cloud Services?

Vocabulary Attack to Hijack Large Language Model Applications

Patrick Levi, Christoph P. Neumann

- presentation slides / video / full article in *Thelamind Digital Library*

Task Offloading in Fog Computing with Deep Reinforcement Learning: Future Research Directions Based on Security and Efficiency Enhancements

Amer Fahmeir

- presentation slides / video / full article in *Thelamind Digital Library*

MANTRA: Towards a Conceptual Framework for Elevating Cybersecurity Applications Through Privacy-Preserving Cyber Threat Intelligence Sharing

Philip Fuen, Murali Hachen, Rudolf Hackenberg, Mirko Ross

- presentation slides / video / full article in *Thelamind Digital Library*

A Forensic Approach to Handle Autonomous Transportation Incidents within Gaia-X

Linor Ahnelt, Klaus Dobos, Conrad Meyer, Andreas Altmuth, Rudolf Hackenberg

- presentation slides / video / full article in *Thelamind Digital Library*

PATTERNS 1 / AAA: Agile & Architecture

Introduction

Geert Haerens

- presentation slides / editorial

Systematic Rejuvenation of a Budgeting Application over 10 years: A Case Study

Christel Kandaswamy, Jan Vervet

- presentation slides / video / full article in *Thelamind Digital Library*

Using Normalized Systems Expansion to Facilitate Software Migration - a Use Case

Christophe De Cooq, Jan Vervet

- presentation slides / video / full article in *Thelamind Digital Library*

Toward a Rejuvenation Factory for Software Landscapes

Henning Mannert, Dr. Max Weiss, Frederic Hannes

- presentation slides / video / full article in *Thelamind Digital Library*

Converging Clean Architecture with Normalized Systems

Gerco Koks

- presentation slides / video / full article in *Thelamind Digital Library*

Regular Sessions

ACCSE 2024, The Ninth International Conference on Advances in Computation, Communications and Services

dPDS - the Emerging Persistent Identification Technology for FAIR and the Digital Era

Andrey Vukobratovic, Erik van Winkle, Eleonora Stacchiotti, George Kountouris

- presentation slides / video / full article in *Thelamind Digital Library*

Mining Enearable Resources with Multiple Thresholds under the Loose Constraint

Tung-Pei Hong, Yi-Chen Chang, Chun-Ho Wang, Wei-Ming Huang

- presentation slides / video / full article in *Thelamind Digital Library*

ADAPTIVE 2024, The Sixteenth International Conference on Adaptive and Self-Adaptive Systems and Applications

Agent-based Modeling in the Edge Continuum using Swarm Intelligence

Melanie Schranz, Ksenia Harshina, Peter Fogacs, Fred Buving

- presentation slides / video / full article in *Thelamind Digital Library*

To Refurbish or not to Refurbish? Towards an AI-based Evaluation System for Power Tool Batteries

Dominique Briesche, Mari Briesche-Mathiaz, Tobias Geger, Nelly Nyweck, Robert Werner

- presentation slides / video / full article in *Thelamind Digital Library*

CollectiveCycles: Towards an Automated Condition Assessment for Bicycles

Tobias Geger, Dominique Briesche, Mari Briesche-Mathiaz, Nelly Nyweck, Robert Werner

- presentation slides / video / full article in *Thelamind Digital Library*

A Method for the Runtime Monitoring of AI-based Environment Perception in Automated Driving Systems

Ilya Aslan, Abhinav Bhangarwal, Daniel Barnea, Aditya Aruldas, Meng Zhang, Andreas Rausch

- presentation slides / video / full article in *Thelamind Digital Library*

On the Regularization of a Low-Complexity Recursive Least-Squares Adaptive Algorithm

Orsolya-Lucian Stancu, Cristian Anghelescu, Cornelia Elise-Nesoiu, Laura-Maria Dogel, Ionuț-Dan Ficu, Constantin Paleologu

- presentation slides / video / full article in *Thelamind Digital Library*

AICT 2024, The Twentieth Advanced International Conference on Telecommunications

Simulation Based Energy Efficiency Analysis of 5G Networks

Chrysostomos Athanasios Katsigannis, Apostolos Gkamas, Konstantinos Tsachris, Christos Bouras, Vasileios Kokkinos, Philippos Pournaras

- presentation slides / video / full article in *Thelamind Digital Library*

Study of Income for Companies that Provide Mobile Internet Service in Colombia

Luis Fernando Piedraza, Cesar Augusto Hernandez, Ernesto Cadena Muñoz

- presentation slides / video / full article in *Thelamind Digital Library*

Competition Analysis in Cellular Networks: A Colombian Case

Ernesto Cadena Muñoz, Cesar Augusto Hernandez, Luis Fernando Piedraza

- presentation slides / video / full article in *Thelamind Digital Library*

Implementation of LSTM Neural Networks for Predicting Competition in Telecommunications Markets

Diego Armando Giraldo-Ramirez, Luis Fernando Piedraza-Morales, Cesar Augusto Hernandez-Suarez

- presentation slides / video / full article in *Thelamind Digital Library*

AIVR 2024, The First International Conference on Artificial Intelligence and Immersive Virtual Reality

Using Virtual Reality to Assess Communicational Skills During a Collaborative Task with Time Pressure

Yosmina Kellal, Gaëlle Nicolas, Samuel Ferreira Da Silva, Pierre Chervier, Jérôme Dinet, Valérie Saint-Chair de Almeida

- presentation slides / video / full article in *Thelamind Digital Library*

Describing and Predicting the Acceptability of AI and Robotics towards Professional Identity with the Revised 4-A Model

Jérôme Dinet, Armand Manayay, Marie Rychalski, Hirokazu Kumezaki, Naomi Matsura, Yoshitomo Ioshikawa

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Work-in-Progress-The Impact of Virtual Reality on Pain Management During Orthodontic Debonding

Irene Bouhass, Aurélie Mallou, Jérôme Dinet

- presentation slides / video / full article in *Thelamind Digital Library*

Basic Senses and Their Implications for Immersive Virtual Reality Design

Muneo Kitajima, Makoto Toyota, Jérôme Dinet, Anissa Bystrycki, Anne-Marie Eby, Marie Gérard

- presentation slides / video / full article in *Thelamind Digital Library*

Model-Based Analysis of the Differences in Sensory Perception between Real and Virtual Space: Toward 'Adaptive Virtual Reality'

Toshi Nakagawa, Muneo Kitajima, Katsuko T. Nakahira

- presentation slides / video / full article in *Thelamind Digital Library*

BUSTECH 2024, The Fourteenth International Conference on Business Intelligence and Technology

Leveraging Data-Driven Approach to Empower Assistive Technology

Sabin Nakarmi, Karim Oussane, Chiheng Yu, Momen Gil, Saranya Khemka

- presentation slides / video / full article in *Thelamind Digital Library*

Comparing CEM and GPM: A Literature Review

Marie-Noëlle Forget, Pierre Hadaya

- presentation slides / video / full article in *Thelamind Digital Library*

CLOUD COMPUTING 2024, The Fifteenth International Conference on Cloud Computing, GRIDS, and Virtualization

Revolutionizing System Reliability: The Role of AI in Predictive Maintenance Strategies

Michael Bodolashkani, Julian Kunkel

- presentation slides / video / full article in *Thelamind Digital Library*

COGNITIVE 2024, The Sixteenth International Conference on Advanced Cognitive Technologies and Applications

Work in Progress: Promoting Self-Regulation for Children with Autism Spectrum Disorder with Robots

Marie Rychalski, Armand Manayay, Jérôme Dinet

- presentation slides / video / full article in *Thelamind Digital Library*

Restricting In-variance and Co-variance of Representations for Adversarial Defense in Vision Transformers

Chee-Hung Chu, Jeythan Alagumalai

- presentation slides / video / full article in *Thelamind Digital Library*

Development of Children's Crossing Skills in Urban Area: Impact of Age and Traffic Density on Visual Exploration

Jordan Sorri, Jérôme Dinet, Muneo Kitajima, Aurélie Mallou, Samuel Ferreira Da Silva, Gaëlle Nicolas

- presentation slides / video / full article in *Thelamind Digital Library*

Practice Stages for a Proficient Piano Player to Complete a Piece: Understanding the Process based on Two Minds

Katsuko T. Nakahira, Muneo Kitajima, Makoto Toyota

- presentation slides / video / full article in *Thelamind Digital Library*

A Metadata Model for Harmonizing Engineering Research Data Across Process and Laboratory Boundaries

Martin Zimmer, Felix Conrad, Kim Feldhoff, Hajo Wiemer, Jens Weller, Steffen Ihlenfeldt

- presentation slides / video / full article in *Thelamind Digital Library*

COMPUTATION TOOLS 2024, The Fifteenth International Conference on Computational Logic, Algebras, Programming, Tools, and Benchmarking

A Note on a Syntactical Measure of the Complexity of Programs

Emanuele Corno

- presentation slides / video / full article in *Thelamind Digital Library*

Contextual Categorization Enhancement through LLMs Latent-Space

Zsolt Bencsik, Anas Safi, Andrew Fowler

- presentation slides / video / full article in *Thelamind Digital Library*

CONTENT 2024, The Sixteenth International Conference on Creative Content Technologies

Visual Artifacts in Software Engineering Processes

Hans-Werner Sahrning

- presentation slides / video / full article in *Thelamind Digital Library*

Automatic Semantic Image Tagging at Scale: AI-Powered Command-Line Tool Based on CLIP

Nyri Mikewich

- presentation slides / video / full article in *Thelamind Digital Library*

Automatic Generation of Illustrations for Children's Fairy Tales From Text: AI-Powered App Based on DALL-E 3

Irina Kogut

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FUTURE COMPUTING 2024, The Sixteenth International Conference on Future Computational Technologies and Applications

Big-Data-Oriented Computing on a Mid-Size Data Center: the ADHOC Infrastructure

Augusto Tortora, Massimo Brescia, Stefania Conte, Paolo Guida,