2nd IFIP International Internet-of-Things (IoT) Conference

31st October - 1st November 2019
Tampa, FL
http://ifip-iotconference.org

Conference Program

Wednesday, 30th October

6 - 7 pm **Welcome Reception**
Embassy Suites Atrium

Thursday, 31st October

8 - 8:15 am **Welcome and Opening Remarks**
General Chairs: Leon Strous and Srinivas Katkoori
Program Chairs: Augusto Casaca and Sandip Ray

8:15 - 9:15 am **Keynote - The Case for Edge Intelligence**
Marilyn Wolf
Chair, Computer Science & Engineering Department,
University of Nebraska-Lincoln, USA
Chair: Leon Strous, De Nederlandsche Bank, NL

9:15 am - 9:45 am *Coffee Break*

9:45 am - 11:15 am **Session 1: IoT Applications**
Chair: Augusto Casaca, INESC-ID/INOV, PT

Architecting Systems-of-Systems of Self-Driving Cars for Platooning on the Internet-of-Vehicles with SosADL
Flavio Oquendo, IRISA (UMR CNRS) - Univ. Bretagne-Sud (UBS), France

Energy Efficiency in Smart Buildings: An IoT-based Air Conditioning Control System
Felipe Barbalho, Lucas Cristiano Dantas, Luis Felipe Santos, Samela Ferreira, Bruna Soares, Alan Fernandes, Everton Cavalcante and Thais Batista
UFRN - Universidade Federal do Rio Grande do Norte, Brazil

Toward Blockchain Technology in IoT Applications: An Analysis for E-health Applications
Maurício Moreira Neto, Emanuel Coutinho, Leonardo Moreira, and Jose De Souza, Federal University of Ceará, Brazil

11:15 am - 11:30 am *Short break*

11:30 am - 12:30 pm   Session 2: IoT Challenges and Applications
Chair: Sandip Ray, University of Florida, Gainesville, USA

Self-Powered Integrated Wireless Sensors for IoT and Harsh Environment Applications *(Invited)*
Philip Feng, University of Florida, Gainesville, USA

IoT Challenges in Embedded Systems, Computer Architectures, Fault Tolerance and VLSI (*Invited*)
Ricardo Reis, UFRGS, Brazil

12:30 pm - 1:30 pm   *Lunch*

1:30 pm - 3:00 pm   Session 3: Context Reasoning and Situational Awareness
Chair: Robert Karam, University of South Florida, USA

I2VSM Approach: Self-Monitoring of Patients Exploring Situational IoT Awareness
Rogério Albandes (1), Roger Machado (1), Jorge Barbosa (2) and Adenauer Yamin(1)
(1) UFPEL, Brazil (2) Universidade do Vale do Rio dos Sinos, Brazil

An IoT Proposal for the Irrigation Management exploring Context Awareness
Rogério Albandes (1), Roger Machado (1), Jorge Barbosa (2) and Adenauer Yamin (1)
(1) UFPEL, Brazil (2) Universidade do Vale do Rio dos Sinos, Brazil

An IoT Architecture to Provide Hybrid Context Reasoning
Roger Machado (1), Ricardo Borges Almeida (1), Rogério Albandes (2), Ana Marilza Pernas (1) and Adenauer Yamin (1)
(1) UFPEL - Universidade Federal de Pelotas, Brazil (2) UCPel - Universidade Católica de Pelotas,

3:00 pm - 4:00 pm   PhD Student Forum and Coffee Break

4:00 pm - 6:00 pm   Session 4: IoT Security
Chair: Himanshu Thapliyal, University of Kentucky, USA

Lightweight Cryptography for IoT and Deeply-Embedded Systems (Invited)
Mehran Mozaffari-Kermani, University of South Florida, Tampa, USA

Trust in IoT Devices: A Logic Encryption Perspective
Yasaswy Kasarabada, David Luria, and Ranga Vemuri, University of Cincinnati, USA

Latent Space Modeling for Cloning Encrypted PUF-based Authentication
Vishalini Laguduva Ramnath(1), Sathyanarayanan Aakur (2), and Srinivas Katkoori (1)
(1) University of South Florida, USA (2) Oklahoma State University, USA

Lightweight Countermeasure to Differential-Plaintext Attacks on Permutation Ciphers
Matthew Lewandowski and Srinivas Katkoori, University of South Florida, Tampa, USA

6:30 pm - 8:30 pm   *Conference Dinner*

Friday, 1 November

8:30 am - 9:30 am **Keynote - Innovations in IoT for Solving Global Problems**
Swarup Bhunia,
Director, Warren B. Nelms Institute for the Connected World
University of Florida, Gainesville, USA
Chair: Srinivas Katkoori, University of South Florida, Tampa, USA

9:30 am - 10:00 am *Coffee Break*

10:00 am - 11:30 am **Session 5: Smart and Low Power IoT**
Chair: Jose Neuman de Souza, Federal University of Ceará, Brazil

Energy Constrained Inference in Distributed IoTs (*Invited*)
Faysal Khan, Mehrdad Mahdavi, Keni Qiu, Changchi Shuai, and Vijaykrishnan Narayanan, Pennsylvania State University, USA

Approximated Adiabatic Logic for Low-Energy IoT Edge Computing (*Invited*)
Himanshu Thapliyal, Wu Yang, and Zachary Kahleifeh, University of Kentucky, USA

Artificial Intelligence and the Internet of Insecure Things (Invited)
Pete Nicoletti, Cybraics Inc, Ft. Lauderdale, USA

11:30 am - 12:30 pm **Panel - AI & IoT**
Moderator: Leon Strous, *De Nederlandsche Bank, Netherlands*
Panelists:
 Swarup Bhunia, *Warren B. Nelms Institute for the Connected World, Univ. of FL, USA*
 Kwang-Cheng Chen, *University of South Florida, USA*
 Pete Nicoletti, *Cybraics, Fort Lauderdale, USA*
 Marilyn Wolf, *University of Nebraska-Lincoln, USA*

12:30 pm - 1:30 pm *Lunch*

1:30 pm - 3:30 pm **Session 6: Smart Network Architectures**
Chair: Ricardo Reis, UFRGS, Brazil

The Road to Holistic Integration of Artificial Intelligence and Communications (*Invited*)
Kwang-Cheng Chen, University of South Florida, Tampa, USA

The thing about the Internet of Things: Scoping the Social Science discourse in IoT research
Viktor Mähler, Umeå University, Sweden

Evaluating Edge Processing Requirements in Next Generation IoT Network Architectures
Brooks Olney, Shakil Mahmud, and Robert Karam, Univ. of South Florida, Tampa, USA

V2X Communication Security for Connected and Autonomous Vehicles (Invited)
Srivalli Boddupalli and Sandip Ray, University of Florida, Gainesville, USA.

3:30 pm - 3:45 pm   *Coffee Break*

3:45 pm - 5:45 pm   **Session 7: Smart System Design and IoT Education**
Chair: Hao Zheng, University of South Florida, Tampa, USA

Good-Eye: A Combined Computer-Vision and Physiological-Sensor based Edge Device for Full-Proof Detection of Fall of Adults (*Invited*)
Saraju Mohanty and Laavanya Rachakonda, University of North Texas, Denton, USA

Building a Low-cost and State-of-the-art IoT Security Hands-on Laboratory (*Invited*)
Bryan Pearson (1), Lan Luo (1), Cliff Zou (1), Jacob Brian (2), Yier Jin (2), Xinwen Fu (1,3)
(1) University of Central Florida, USA (2) University of Florida, USA (3) University of Massachusetts Lowell, USA

Curriculum Design Requirements and Challenges for the first Bachelor's Degree on IoT in the US (*Invited*)
Kemal Akkaya, Florida International University, USA

IoT in Smart Grid: Energy Management Opportunities and Security Challenges (*Invited*)
Motahareh Pourbehzadi (1,2), Taher Niknam (1), Abdollah Kavousi-fard (1), Yasin Yilmaz (2)
(1) Shiraz University of Technology, Iran (2) University of South Florida, USA

5:45 pm - 6:00 pm   Closing Remarks

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