Xu Tao

CONTACT INFORMATION	329 Rose Street Lexington, KY 40508	*E-mail:* xu.tao@uky.edu

EDUCATION

Doctoral Student in Computer Science **August 2021 - Present**
Visa Status: F-1
Advisor: Dr. Simone Silvestri
University of Kentucky, USA.

Master of Science in Computer Engineering **April 2018**
Politecnico di Torino, Italy. Full scholarship awarded.
Saint Louis University, USA. Master Thesis.
Title of Thesis: A Policy-Based Architecture for Container Migration in Software Defined Infrastructures.
Advisors: Flavio Esposito, Saint Louis University, USA; Guido Marchetto, Politecnico di Torino, Italy.

Bachelor of Science in Computer Engineering **July 2015**
Politecnico di Torino, Italy.

RELEVANT WORKING EXPERIENCE

LINKS Foundation, Italy (Researcher) **May 2018 - August 2021**
(formerly Istituto Superiore Mario Boella, Italy)
A research and innovation centre operating in the Information and Communication Technologies (ICT) domain. (https://linksfoundation.com/en/).
Research area: IoT & Pervasive Technologies.
- Participate in the on-going EU funded H2020 project KnowlEdge with the aim to provide solutions for the AI-powered manufacturing services, processes, and products in an edge-to-cloud-knowledge continuum for humans [in-the-loop].
Technologies: Python, Statistics, Pandas May 2021 - August 2021

- Participate in the EU-funded H2020 project BRAIN-IoT with the aim to provide a framework and methodology that supports smart autonomous and cooperative behaviors of heterogeneous IoT devices and platforms which are also closely interacting with Cyber-Physical systems (CPS).
Technologies: IoT middleware, Cyber-Physical systems, REST Service, MQTT, OSGi Alliance, W3C Web of Things, Robot Operating System, Machine Learning. May 2018 - May 2021

Saint Louis University, USA(Visiting Scholar) **Aug 2017 - Feb 2018**
Master thesis research and development of a policy-based programmable container migration architecture, in particular:

- System architecture design.
- Software-defined measurement system development leveraging SDN controller.
- Migration protocol design.
- Policy-based migration algorithm development.
- Use case policies performance experiment within SDN-based prototype over MININET and GENI.

Technologies: Java, Python, SDN Floodlight controller, Mininet, Eclipes, VirtualBox, MySQL, Linux, REST Service, OpenFlow, GINI.

Seica, Italy (Software Development Intern)   **Mar 2017 - May 2017**
A global supplier of automatic test equipment and selective soldering system. (https://www.seica.com/)
Software developer of a Cloud Bridge for Automation Smart Home System.

Department of Computer Engineering, Politecnico di Torino, Italy   **Sept 2016 - Feb 2017**
Laboratory Assistant of Computer Network Technologies and Services.

PERSONAL SKILLS   **Programming languages:** Python, Java, C/C++, PHP, HTML, Javascript, SQL, XML, CSS.
AND COMPETENCES   **Database:** MySQL, Oracle
Virtualization Tools: VirtualBox, Docker
Programming skills: REST Service, Socket Programming, Docker Container, Software Defined
Networking, Concurrent Threads Programming, Distributed Programming
Platforms: Unix, Windows
Languages: Chinese (native), English (fluent), Italian(basic)

SELECTED   **Xu Tao**, Evan Damron, and Simone Silvestri. "High-Precision Crop Monitoring Through UAV-
PUBLICATIONS   Aided Sensor Data Collection" in IEEE International Conference on Communications (ICC), 2024.

Xu Tao and Simone Silvestri. "Network Tomography and Reinforcement Learning for Efficient
Routing" in IEEE International Conference on Mobile Ad-Hoc and Smart Systems (MASS), 2023.

Xu, Tao, and Simone Silvestri. "Integrating UAV and LoRaWAN in WSN for Intelligent Moni-
toring in Large-scale Rural Farms" in IEEE International Conference on Pervasive Computing and
Communications (PerCom Workshops), 2023.

Xu Tao, Davide Conzon, Enrico Ferrera,Laurent Maillet-Contoz, Emmanuel Michel, Mario Diaz-
Nava, Shuai Li, AbdelHakim Baouya, Salim Chehida, Juergen Goetz, "Model Based Methodology
and Framework for Design and Management of Next-Gen IoT Systems" in Eclipse Research Interna-
tional Conference on Security, Artificial Intelligence and Modelling for the next generation Internet
of Things (SAMIoT), 2020.

Rui Zhao, **Xu Tao**, Davide Conzon, Enrico Ferrera, "A Cross-platform Communication Mechanism
for ROS-based Cyber-physical System"in Eclipse Research International Conference on Security,
Artificial Intelligence and Modelling for the next generation Internet of Things (SAMIoT), 2020.

Enrico Ferrera, **Xu Tao**, Davide Conzon, Victor Pombo, Miquel Cantero, Tim Ward, Ilaria Bosi,
Mirko Sandretto, "BRAIN-IoT: Paving the Way for Next-Generation Internet of Things" in Pro-
ceedings of the 5th International Conference on Internet of Things, Big Data and Security(IoTBDS),
2020.

Richard Nicholson, Timothy Ward, Derek Baum, **Xu Tao**, Davide Conzon, Enrico Ferrera. "Dy-
namic fog computing platform for event-driven deployment and orchestration of distributed Internet
of Things applications" in 3rd World Conference on Smart Trends in Systems Security and Sustain-
ability (WorldS4), 2020.

Davide Conzon, Mohammad Rifat Ahmmad Rashid, **Xu Tao**, Enrico Ferrera. "BRAIN-IoT: Model-
Based Framework for Dependable Sensing and Actuation in Intelligent Decentralized IoT Systems"
in 4th International Conference on Computing, Communications and Security (ICCCS) 2019.

Xu Tao, Flavio Esposito, Guido Marchetto. "A Policy-Based Architecture for Container Migration
in Software Defined Infrastructures" in 5th IEEE Conference on Network Softwarization (IEEE
NetSoft) 2019.