Workshop Proposal

1. Workshop Title

The 2nd International Workshop on BLockchain Enabled Sustainable Smart Cities (BLESS 2019)

2. Organizers

Co-Chairs: Dr. Yu Chen, Binghamton University, SUNY, USA, Email: ychen@binghamton.edu
Dr. Sachin Shetty, Old Dominion University, USA, Email: sshetty@odu.edu

3. Rationale of the Workshop

Enabled by the proliferation of Internet of Things (IoT), edge-fog-cloud computing, and interconnected networks, smart cities are capable of innovative solutions to change the lifestyles of its residents. Unavoidably the potential benefits come alone with new challenges and concerns related to information security and privacy. Blockchain technology is a platform that would provide tamper proof storage for data derived from smart cities and ensure the access to the data is tracked and provided to authorized users. The resultant chain of custody will provide an interoperable platform that would facilitate decisions in smart cities that would impact the communities. The transparency of the platform would provide citizens would go a long way in building trust and ensure that the businesses will held to high standards of accountability.

Researchers and developers from both academia and industry have recognized the potential of blockchain technology as a trusted platform for the information and communication infrastructure of smart cities. The integration of blockchain in smart cities would benefit applications such as, universal ID cards, land/property/housing/energy/ water/pollution management, improving public transit urban planning, universal data storage and keyless signature interfaces, amongst several others.

BLESS'2019 will bring researchers and experts together to present and discuss the latest developments and technical solutions concerning various aspects of blockchain technology in the context of smart cities. BLESS'2019 seeks original unpublished papers focusing on theoretical analysis, emerging applications, novel system architecture construction and design, experimental studies, and social impacts of blockchain. Both review/survey papers and technical papers are encouraged. BLESS'2019 also welcomes short papers that summarize speculative breakthroughs, work-in-progress, industry featured projects, open problems, new application challenges, visionary ideas, and preliminary studies.

4. Scope and Topics of the Workshop

BLESS'2019 aims at highlighting the roles that blockchain technology can play in the smart cities, it is cross-disciplinary and covers multiple area including information security, infrastructure security, facilities, communication networks, data storage, distributed computing, and more. The main goal of the workshop is to gather researchers from these areas together to foster the collaboration among such interdisciplinary areas and to spark discussion on open topics related to blockchain enabled applications in smart cities.

Suggested topics include, but are not limited to, the following:

- Blockchain based cyber physical systems for smart cities
- Blockchain based information hiding/encryption in smart cities
- Blockchain based lightweight algorithms and protocols for IoT
- Blockchain based security and privacy solutions for smart cities
- Blockchain enabled novel applications and services in smart cities

- Smart contract and distributed ledger for smart cities
- Security, privacy and trust of blockchain based decentralized systems
- Blockchain in critical infrastructure resilience (power grid, oil and gas, etc)
- Blockchain for supply chain protection
- Blockchain for networked identity management
- Scalability of Blockchain
- Secure Blockchain based identity management systems
- Interoperable Blockchain systems
- Blockchain infrastructure for public transit management
- Blockchain for social impact
- Blockchain based voting systems for urban and regional planning decisions
- Blockchain for universal data storage
- Keyless signature interfaces

4. Planned Format of the Workshop

Considering a full-day workshop of 4 sessions (1.5 hr each session), the BLESS'2019 workshop expects to accept nine full papers and four short papers reporting new ideas or works in progress. The three full paper sessions will be organized in terms of oral presentations (20 minutes) where each talk will be followed by 10 minutes of Q&A and discussions. The short paper session will be short talks (10 minutes) followed by a 5-minute Q&A. Papers will be selected based on peer view and the potential to spark discussions among participants.

5. Organizers Backgrounds

- **Dr. Yu Chen** is an Associate Professor of Electrical and Computer Engineering at the Binghamton University - State University of New York (SUNY). He received the Ph.D. in Electrical Engineering from the University of Southern California (USC) in 2006. Leading the Ubiquitous Smart & Sustainable Computing (US2C) Lab, his research interest lies in Trust, Security and Privacy in Computer Networks, including Edge-Fog-Cloud Computing, Internet of Things (IoTs), and their applications in smart and connected environments. Dr. Chen's publications include over 150 papers in scholarly journals, conference proceedings, and books. His research has been funded by NSF, DoD, AFOSR, AFRL, New York State, and industrial partners. He has served as reviewer for NSF panels and for international journals, and on the Technical Program Committee (TPC) of prestigious conferences. He is a senior member of IEEE (Computer Society & Communication Society) and SPIE, a member of ACM.
- **Dr. Sachin Shetty** is an Associate Professor in the Virginia Modeling, Analysis and Simulation Center at Old Dominion University. He holds a joint appointment with the Department of Modeling, Simulation and Visualization Engineering and the Center for Cybersecurity Education and Research. Sachin Shetty received his PhD in Modeling and Simulation from the Old Dominion University in 2007 under the supervision of Prof. Min Song. Prior to joining Old Dominion University, he was an Associate Professor with the Electrical and Computer Engineering Department at Tennessee State University. He was also the associate director of the Tennessee Interdisciplinary Graduate Engineering Research Institute and directed the Cyber Security laboratory at Tennessee State University. He also holds a dual appointment as an Engineer at the Naval Surface Warfare Center, Crane Indiana. His research interests lie at the intersection of computer networking, network security and machine learning. His laboratory conducts cloud and mobile security research and has received over $10 million in funding from National Science Foundation, Air Office of Scientific Research, Air Force Research Lab, Office of Naval Research, Department of Homeland Security, and Boeing. He is the site lead on the DoD Cyber Security Center of Excellence, the Department of Homeland Security National Center of Excellence, the Critical Infrastructure Resilience Institute (CIRI), and Department of Energy, Cyber Resilient Energy Delivery Consortium (CREDC). He has authored and coauthored over 80 research articles in journals and conference proceedings and two books. He is recipient of DHS Scientific Leadership

Award and has been inducted in Tennessee State University's million dollar club. He has served on the technical program committee for ACM CCS, IEEE INFOCOM, IEEE ICDCN, and IEEE ICCCN. He is an Associate Editor for International Journal of Computer Networks.

6. Important Dates

Paper Submission:	Aug. 01, 2019
Acceptance Notification:	Aug. 31, 2019
Camera-ready due:	Sept. 15, 2019
Conference dates:	Oct. 15, 2019