Title:

Software Reliability and Security using Big Data Technologies

Abstract:

Software today is not only larger and more complex than ever before, but also has much tighter schedule and more frequent releases. Consequently, reliability, which is one of the most important feature during software lifecycle, is facing greater challenges. While purely manual reliability maintenance is regarded as inefficient and expensive under this circumstance, a great amount of techniques has been investigated as complementary, for the sake of less human involvement and higher efficiency.

Big data technologies analyze the rich data available in software repositories to uncover interesting and actionable information about software systems and projects. Thanks to the ready availability of software configuration management, mailing list, and bug tracking repositories from open source projects, it has gained popularity and continues to be one of the fastest growing fields in the area of software engineering and information security.

By using big data technologies, researchers can utilize the rich data and their relations to complete a series of automated tasks such as fault localization and bug fixing in reliability maintenance. Moreover, they can also help to resolve the problems of software security.

Scope and Topics:

The objective of this workshop is to invite authors to submit original manuscripts that demonstrate and explore current advances in all aspects of big data-based software reliability and software security. The workshop solicits novel papers on a broad range of topics, including but not limited to:

- Bug Report Summarization
- Software Features (Severity, Priority) Prediction
- Duplicate Bug Reports Detection
- Automated Bug Assignment, Automated Fault Localization, and Automated Program Repair
- Empirical Studies for Big Data Technologies on Software Reliability and Security
- Challenges of Software Security using Big Data Technologies
- Privacy Protection of Software using Big Data Technologies
- Data Processing and Privacy in Software Systems
- Security, Privacy and Trust in Software Big data

Program Committee Chairs:

Lei Chen (Chair), Georgia Southern University (USA)

http://cec.georgiasouthern.edu/it/faculty/lei-chen/

Dr. Lei Chen is a tenured Associate Professor, the Interim Department Chair and the Graduate Program Director for the Department of Information Technology at Georgia Southern University. He received his B.Eng. in Computer Science and Applications from Nanjing University of Technology, China, in 2000, and PhD. in Computer Science and Software Engineering from Auburn University, USA, in August 2007. He joined Georgia Southern University in 2015, before when he served for 8 years in the Department of Computer Science at Sam Houston State University (SHSU) as Assistant Professor and later tenured Associate Professor. He also served as the Graduate Program Coordinator for all three master programs and four graduate certificate programs offered by the department at SHSU.

Jianguo Sun (Vice Chair), Harbin Engineering University, China

sunjianguo@hrbeu.edu.cn

http://homepage.hrbeu.edu.cn/web/sunjianguo

Jianguo Sun received his B.S. in Computer Science and Technology in 2003, M.Eng in Computer Science and Technology from HIT in 2005, and Ph.D. degree in Computer Science and Technology from HEU in 2009, respectively. During 2015 and 2016, Prof. Sun spent one year at UC Berkeley as a Visiting Scholar. Currently, he is a vice Dean at the College of Computer Science, Harbin Engineering University.

Tao Zhang (Vice Chair), Harbin Engineering University, China

cstzhang@hrbeu.edu.cn

https://cszhangtao.github.io/

Tao Zhang received his B.S. in Automation and M.Eng in Software Engineering from Northeastern University in 2005 and 2008, respectively. He obtained his Ph.D. degree in Computer Science from University of Seoul in 2013. After that, Tao Zhang spent one year at the Hong Kong Polytechnic University as a Postdoctoral Research Fellow from 2014 to 2015. Currently, he is an associate professor at the College of Computer Science, Harbin Engineering University.

Yun Lin (Vice Chair), Harbin Engineering University, China

Yun Lin is currently an associate professor at college of information and communication engineering, Harbin Engineering University, China. He received the B.S. degree in Dalian Maritime University in 2003, the M.S. degree in Harbin Institute of Technology in 2005, and the Ph.D degree in Harbin Engineering University in 2010. He was also a visiting scholar in Wright State University, USA, from 2014.6-2015.7. His research interest is focusing on machine learning, data science, sensor network, signal processing, information fusion, cognitive and software defined radio. Until now, he has presented forty research papers, five patents, and one book. And, he has served as reviewers for several journals and conferences such as

《IEEE Trans. On Reliability》、《Mathematical Problems in Engineering》、《Journal of Supercomputer》、《Journal of Harbin Engineering University》、《Journal of Astronautics》,《Journal of Basic Science and Engineering》, IEEE VTC, IEEE MILCOM, IEEE WICOM. Now, he has been selected as the TPC member of IEEE VTC 2017 in Canada.

Program Committee:

Guanglu Sun, Harbin University of Science and Technology, China
He Jiang, Dalian University of Technology, China
Xin Xia, Monash University, Australia
Jifeng Xuan, Wuhan University, China
Xiaobin Sun, Yangzhou University, China
Rubing Huang, Jiangsu University, China
Ting Chen, University of Electronic Science and Technology of China, China
Xiapu Luo, Hong Kong Polytechnic University, Hong Kong, China
Lei Ma, Harbin Institute of Technology, China