

MLiSE 2021

1st Workshop on Machine Learning in Software Engineering in conjunction with ECML PKDD



Motivation

- Software engineering (SE) is about methodologies and techniques for building high quality software systems.
- Modern software systems are becoming larger and more complex.
- Need to improve quality, reliability, costeffectiveness and the ability to solve complex problems.
- ML has revolutionized numerous domains.



Motivation

• ML in SE:

- source code generation from requirements, automatically proving the correctness of software specifications,
- providing intelligent assistance to developers.

SE in ML

 SE techniques and methodologies can be used to improve the ML process

Goal of this workshop: create a new forum to bring together the ML and SE communities



Organization committee

Philippe Fournier-Viger Shenzhen University

M. Saqib Nawaz Harbin Inst. of Techology

<u>Sebastian Ventura</u> University of Cordoba

Meng Sun Peking University

Min Zhou Huawei Noah's Ark Lab





Program committee

- Moulay Akhloufi (University of Moncton, Canada)
- Guangdong Bai (University of Queensland, Australia)
- Mustapha Bouakkaz (Université de Laghouat, Algeria)
- Tin Truong Chi (University of Dalat, Vietnam)
- Wensheng Gan (Jinan University, China)
- Osman Hasan (National University of Science and Technology, Pakistan)
- Tzung-Pei Hong (National University of Kaohsiung, Taiwan)
- Rage Uday Kiran (University of Aizu, Japan)
- M. Ikram Ullah Lali (University of Education, Pakistan)
- Pinar Karagoz (Middle East Technical University, Turkey)
- Bac Le (Ho Chi Minh City University of Science, Vietnam)
- Jerry Chun-Wei Lin (Western Norway University of Applied Sciences, Norway)

- Ai Liu (Hiroshima University, Japan)
- Wanwei Liu (NUDT, China)
- Jose Maria Luna (University of Cordoba, Spain)
- João Mendes-Moreira (University of Porto, Portugal)
- Engelbert Mephu Nguifo (Université Blaise Pascal, France)
- Farid Nouioua (University of Bordj Bou Arreridj, Algeria)
- José Proença (ISEP, Portugal)
- Wei Song (North China University of Technology)
- Bay Vo (Ho Chi Minch City University of Technology, Vietnam)
- Cheng-Wei Wu, (National Ilan University, Taiwan)
- Youxi Wu (Hebei University of Technology, China)
- Unil Yun (Sejong University, Korea)
- Xiyue Zhang (Peking University, China)



Program

- 2 keynote speakers
- 13 submitted papers
- Double-blind review
- 7 accepted papers (53%)
- The proceedings of MLiSE will be jointly published with other workshops after the conference, by Springer.



 https://philippe-fournierviger.com/MLISE workshop 2021/MLISE proceedings.pdf

Keynote speaker 1:

9:15 to 10:30



Prof. Zhi Jin (Peking University, China)

"Deep learning enabled program understanding"



Keynote speaker 2:

13:20 to 14:30



Prof. Atif Mashkoor

(Johannes Kepler University, Austria)

"The Relationship Between Machine Learning and Software Engineering Life Cycle Stages"





Best paper award

THIS ACKNOWLEDGES THAT THE PAPER

A Stacked Bidirectional LSTM Model for Classifying Source Codes Built in MPLs

Md. Mostafizer Rahman, Yutaka Watanobe, Rage Uday Kiran and Raihan Kabir

HAS BEEN SELECTED AS THE BEST PAPER AT THE 1ST WORKSHOP ON MACHINE LEARNING IN SOFTWARE ENGINEERING (MLISE 2021)
HELD ONLINE AT THE ECML PKDD 2021 CONFERENCE

Philippe Fournier-Viger

Date

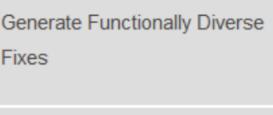
Philippe Fournier-Viger on behalf of the MLISE 2021 committee



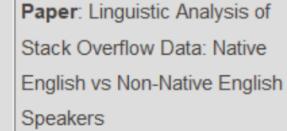
Research papers

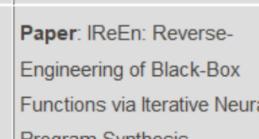
10:30-11:00	Paper: A Stacked Bidirectional LSTM Model for Classifying Source Codes Built in MPLs. (best paper)	Md. Mostafizer Rahman, Yutaka Watanobe, Rage Uday Kiran and Raihan Kabir.
11:00-11:30	Paper: Metamorphic Malware Behavior Analysis using Sequential Pattern Mining	M. Saqib Nawaz, Philippe Fournier-Viger, M. Zohaib Nawaz, Chen Guoting and Youxi Wu
11:30-12:00	Paper: Applying Machine Learning to Risk Assessment in Software Projects	André Sousa, João Faria, João Moreira, Duarte Gomes, Pedro Henriques and Ricardo Graça.

Paper: SampleFix: Learning to Fixes



Paper: Linguistic Analysis of



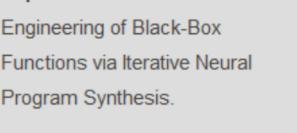


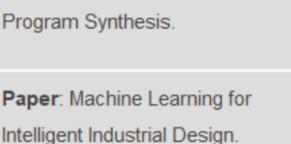


16:00-16:30

15:30-16:00

15:00-15:30









Hossein Hajipour, Mateusz Malinowski and Mario Fritz.

Alexandru Staicu and Mario Fritz

Janneke Morin and Kris Gosh



Next year

- Try to expand this workshop to a larger audience.
- A potential journal special issue