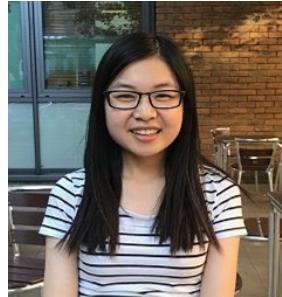




Welcome from the Chairs



David Lo & Xin Xia
General Co-Chairs



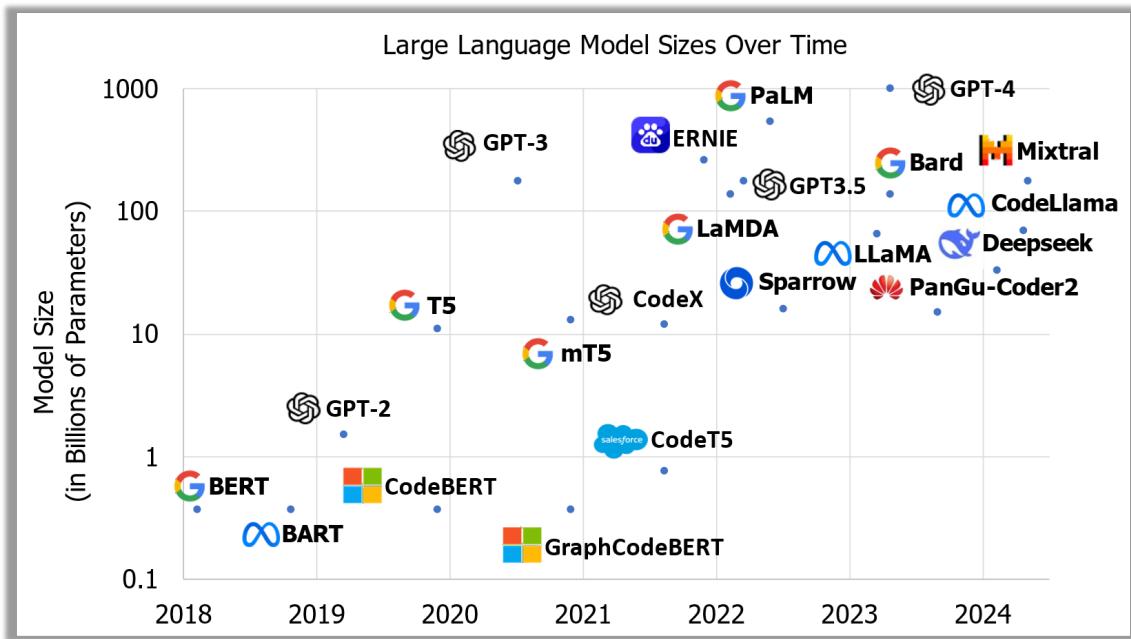
Cuiyun Gao & Denys Poshyvanyk
Program Co-Chairs





Welcome from the General Chairs

Foundation models are growing rapidly



Google for Developers

Introducing PaliGemma 2:
Powerful Vision-Language
Models, Simple Fine-Tuning

DEC. 5, 2024

Daniel Keysers Andreas Steiner
Research Engineer Staff Software Engineer

Mar 12, 2025



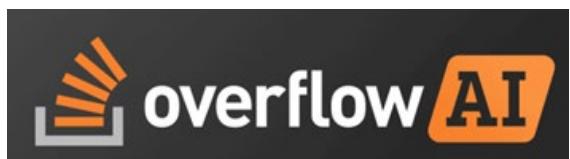
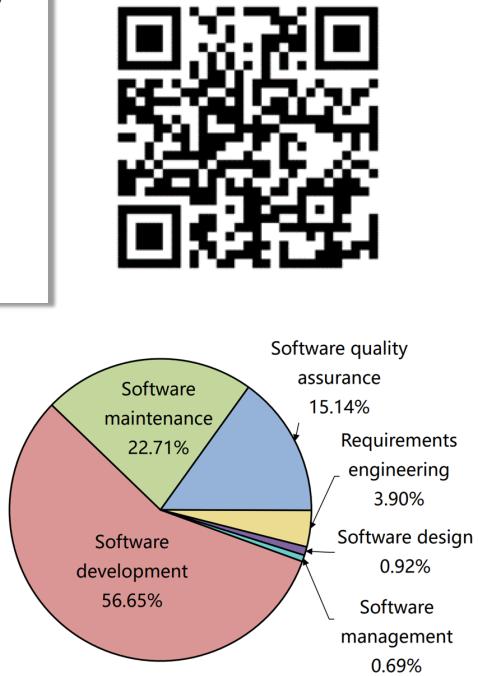
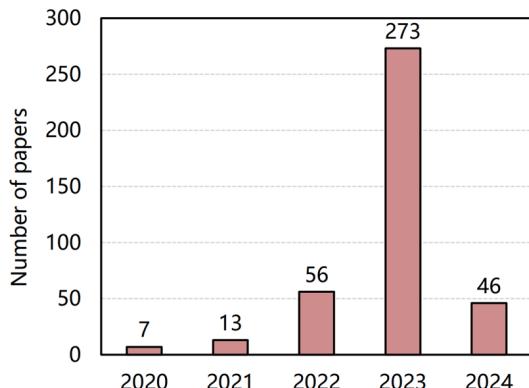
Gemini Robotics and Gemini Robotics-ER are two new Gemini models designed for robotics.

Welcome from the General Chairs

They have impacted software engineering research and practice

Large Language Models for Software Engineering: A Systematic Literature Review

XINYI HOU*, Huazhong University of Science and Technology, China
 YANJIE ZHAO*, Monash University, Australia
 YUE LIU, Monash University, Australia
 ZHOU YANG, Singapore Management University, Singapore
 KAILONG WANG, Huazhong University of Science and Technology, China
 LI LI, Beihang University, China
 XIAPU LUO, The Hong Kong Polytechnic University, China
 DAVID LO, Singapore Management University, Singapore
 JOHN GRUNDY, Monash University, Australia
 HAOYU WANG†, Huazhong University of Science and Technology, China





Welcome from the General Chairs

However they are not without issues and limitations

Robustness, Security, Privacy, Explainability, Efficiency, and Usability of Large Language Models for Code

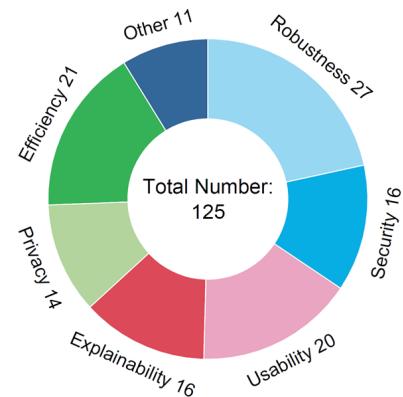
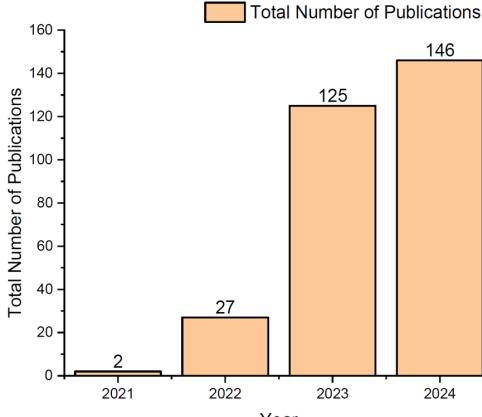
ZHOU YANG, Singapore Management University, Singapore

ZHENSU SUN, Singapore Management University, Singapore

TERRY ZHUO YUE, Singapore Management University, Singapore

PREMKUMAR DEVANBU, Department of Computer Science, UC Davis, USA

DAVID LO, Singapore Management University, Singapore



Friend or foe: Can computer coders trust ChatGPT?



Share

31 March 2023

By Sean McManus, Technology Reporter



MARK SHERMAN
FEBRUARY 12, 2024



GitHub Copilot copyright case narrowed but not neutered

Microsoft and OpenAI fail to shake off AI infringement allegations



Welcome from the General Chairs

There are many open problems requiring a dedicated community

ASE 2023

SATE - Software Engineering at the Era of LLMs





Welcome from the General Chairs

There are many open problems requiring a dedicated community





New to FORGE 2025!

Officially Upgraded to a Conference

- Transitioned from a special event at ICSE 2024 to a standalone conference

Newly Introduced Tracks

- Data and Benchmarking Track
- Industry Track
- Tutorial Track



New to FORGE 2025!

Extended Duration

- Upgraded from 1-day in 2024 to a 2-day event in 2025

Workshop Integration

- Incorporates InteNSE: International Workshop on Interpretability, Robustness, and Benchmarking in Neural Software Engineering



New for 2025

Six keynotes (Industry and Academia)



Banquet

- Attendees registering for both days (received emails from Feifei Niu)
- **The Waverley Elgin** (339 Elgin St, Ottawa, ON K2P 1M5), **Monday April 28th at 7:00 p.m**

Registrants Statistics

- ~100 registrants
 - 12+ different countries from ALL continents except Africa & Antarctica
 - Top 3: Canada, USA and China
 - Industry (10+ companies) and academia
 - Google, AMD, JetBrains, Huawei, Amazon, Siemens, Ubisoft, etc.



Organizing Committee



Antonio Mastropaoletti and
Bowen Xu,
Data & Benchmarking
Co-Chairs



Henry Le and
Michele Tufano,
Industry Co-Chairs



Reyhaneh
Jabbarvand,
Tutorial Co-Chair

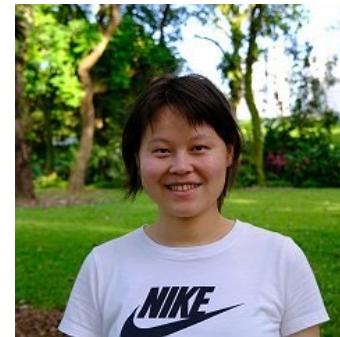
Organizing Committee



Feifei Niu,
Local Arrangement &
Social Media Co-Chair



Zhensu Sun and Ting
Zhang,
Social Media Co-Chairs



Yujia Chen,
Web Co-Chair



FORGE 2025 Program



Program Committee of Research Track

Alexander Pretschner, Antonio Mastropaoletti, Chaozheng Wang, Chengpeng Wang, Chunqiu Steven Xia, Claudio Di Sipio, Cuiyun Gao, Denys Poshyvanyk, Dong Wang, Eunjong Choi, Fabio Palomba, Fuxiang Chen, Giammaria Giordano, Gilberto Recupito, Gouri Ginde, Huaming Chen, Jiakun Liu, Jialun Cao, Lili Wei, Lingfeng Bao, Matteo Ciniselli, Mohammed Shehab, Morakot Choetkiertikul, Nicole Novielli, Phuong T. Nguyen, Shangwen Wang, Shuqing Li, Shuzheng Gao, Vincenzo Riccio, WANG KAILONG, Weisong Sun, Wenchao Gu, Xiao Liu, Xiaoyu Liu, Xin Zhou, Xin-Cheng Wen, Yi Liu, Yinxing Xue, Yu Hao, Yuekang Li, Yun Peng, Zhenhao Li, Zhenpeng Chen, Zhongxin Liu, Zishuo Ding, Zongjie Li

Reviewing Process

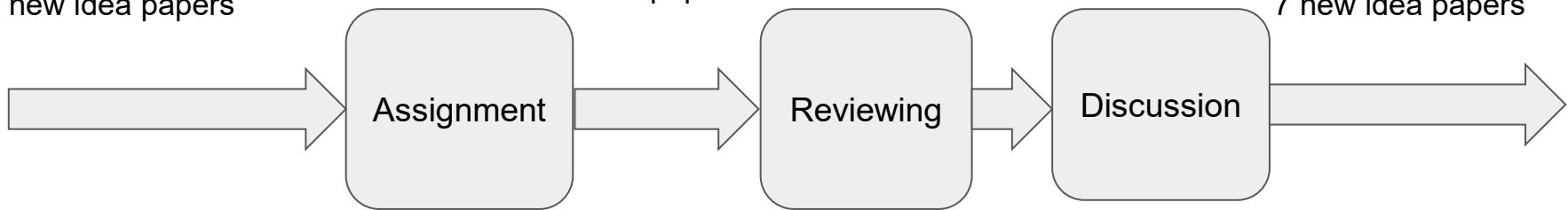
Submissions:

44 full research papers
13 new idea papers

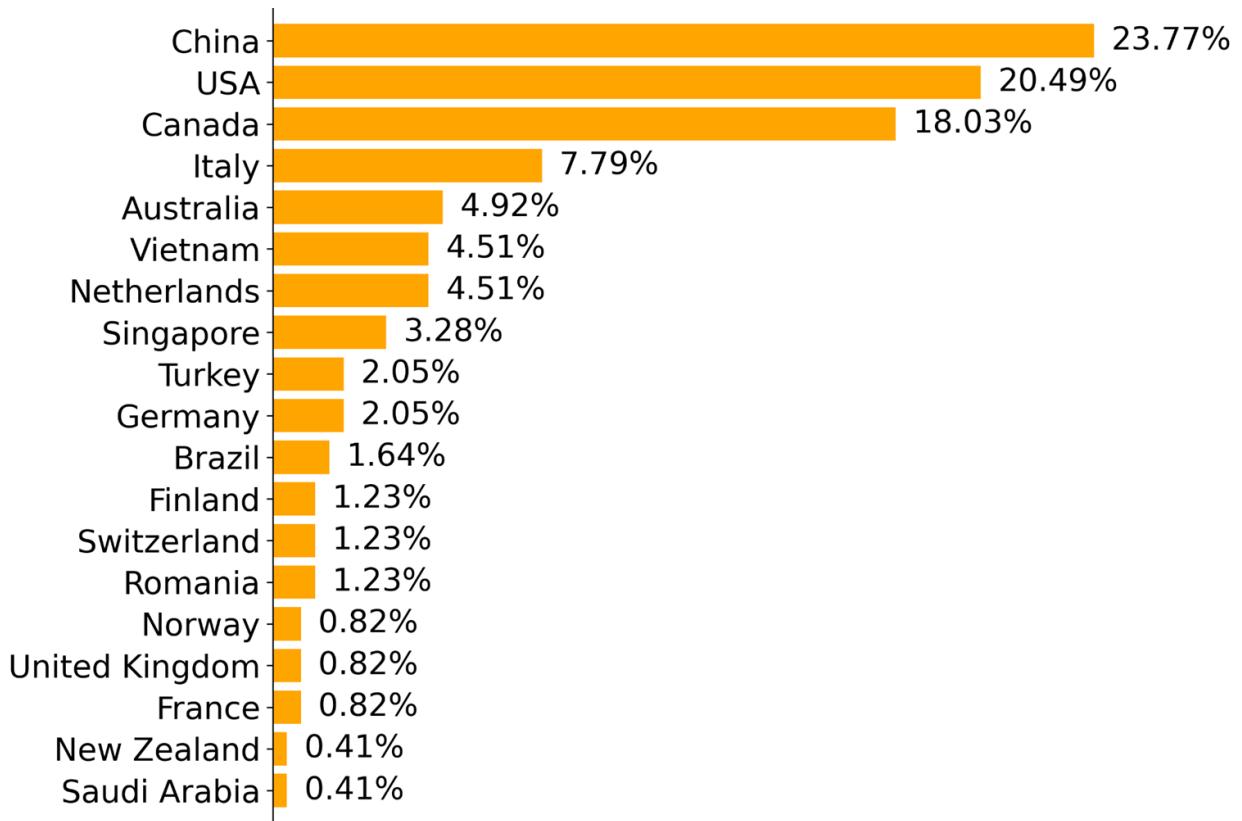
3 reviewers for
each paper

Accepted:

20 research papers
7 new idea papers



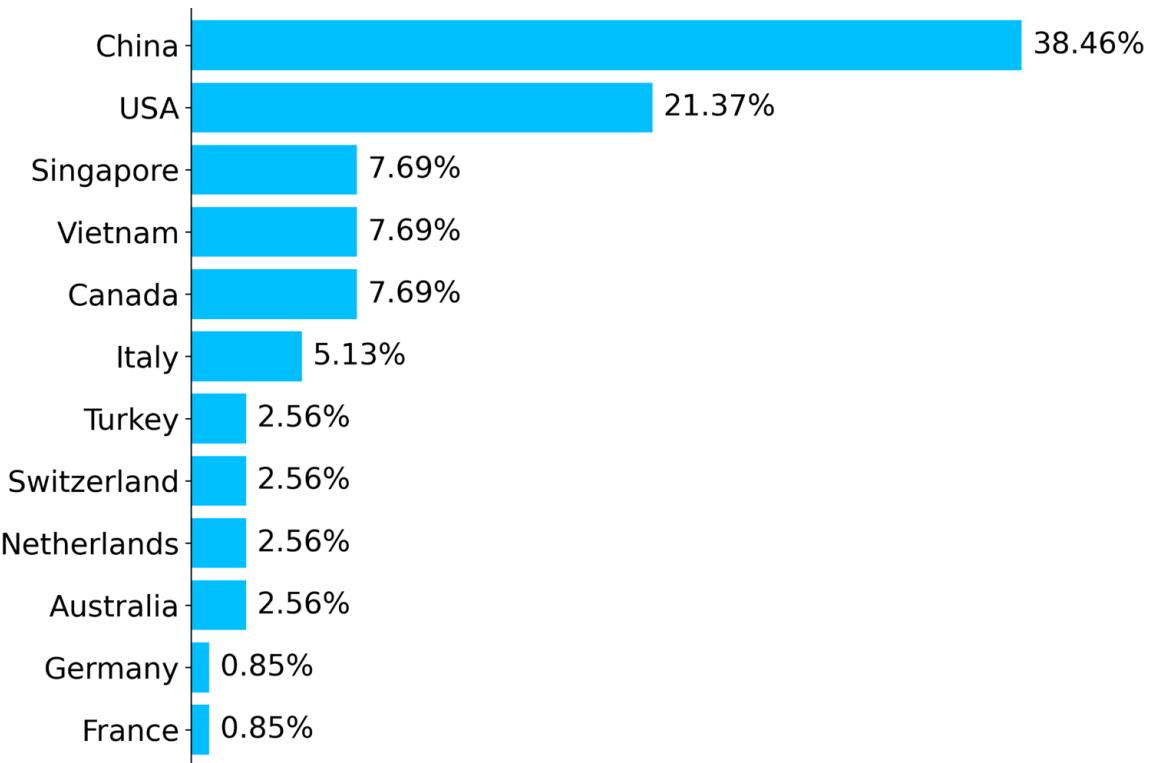
Submitted by Country



44 full

13 new idea

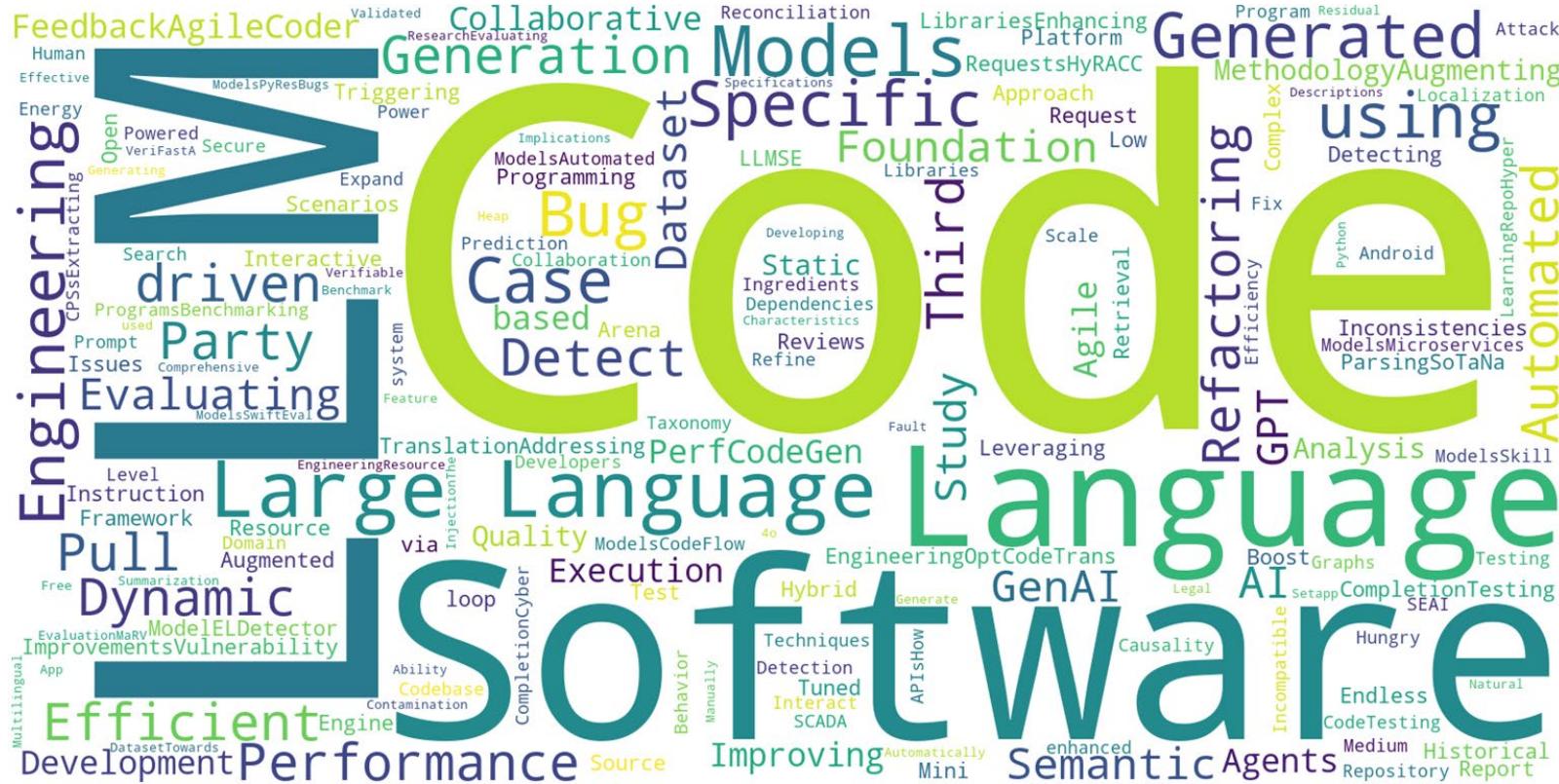
Accepted by Country



20 full (45.5%)

7 new idea (53.8%)

Papers About...





The Program

Six Keynotes:

- Prem Devanbu (UC Davis)
- Thomas Zimmermann (UC Irvine)
- Graham Neubig (Carnegie Mellon University)
- Darya Rovdo (JetBrains)
- Satish Chandra (Google)
- Dong Qiu (Huawei)

One Panel:

- Prem Devanbu; Thomas Zimmermann; Darya Rovdo



The Program

One Tutorial:

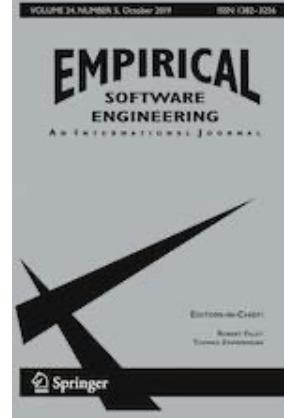
- Fatemeh Hendijani Fard (University British Columbia)

Five Technical Sessions featuring:

- 6 min (with clarification questions) presentations for new idea papers, industry papers, data and benchmarking papers
- 12 min (with clarification questions) presentations for full research papers

EMSE Special Issue Invitations

- J. Han, G. Wang, J. Liu, L. Bao , X. Hu, J. Wei, S. Deng. **A Comprehensive Study of Bug Characteristics on Foundation Language Models**
- Y. Peng, A. Deepak Gotmare, M. Lyu, C. Xiong, S. Savarese, D. Sahoo. **PerfCodeGen: Improving Performance of LLM Generated Code with Execution Feedback**
- C. Chi Le, H. Nhat Phan, H. Nhat Phan, T. N. Nguyen, N. D. Q. Bui. **CodeFlow: Program Behavior Prediction with Dynamic Dependencies Learning**
- D. Li, J. Tang, S. Wu, Z. Zheng, S. Ng. **Cyer-Attack Detection and Localization for SCADA system of CPSs**
- Y. Gao, X. Hu, Z. Chen, T. Xu, X. Yang. **Vulnerability-Triggering Test Case Generation from Third-Party Libraries**
- H. Wang, Z. Xu, S. Hwei Tan. **Testing Refactoring Engine via Historical Bug Report driven LLM**
- H. Nhat Phan, H. Nhat Phan, T. N. Nguyen, N. D. Q. Bui. **RepoHyper: Search-Expand-Refine on Semantic Graphs for Repository-Level Code Completion**



Award Session

Distinguished Reviewer Awards



These people did an awesome reviewing work!

Chaozheng Wang

Xin-Cheng Wen

Alexander Pretschner

Chengpeng Wang

Chunqiu Steven Xia

Eunjong Choi

Fabio Palomba

Distinguished Paper Award



ACM SIGSOFT Distinguished Paper Award FORGE 2025

The 2nd ACM international conference on
AI Foundation Models and Software Engineering
April 27-28, 2025 – Ottawa, Canada



Presented to

Yun Peng, Akhilesh Deepak Gotmare, Michael Lyu, Caiming Xiong, Silvio Savarese, Doyen Sahoo

for the paper

“PerfCodeGen: Improving Performance of LLM Generated Code with Execution Feedback”



ACM SIGSOFT Distinguished Paper Award FORGE 2025

The 2nd ACM international conference on
AI Foundation Models and Software Engineering
April 27-28, 2025 – Ottawa, Canada



Presented to

**Junxiao Han, Guanqi Wang, Jiakun Liu, Lingfeng Bao , Xing
Hu, Jinling Wei, Shuguang Deng**

for the paper

**“A Comprehensive Study of Bug Characteristics on
Foundation Language Models”**