YANFU YAN

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RESEARCH INTERESTS

Software engineering (SE), software maintenance and evolution, software analytics, program comprehension, artificial intelligence for software engineering (AI4SE), mobile software, repository mining, trustworthy AI

EDUCATION

William & Mary (CS ranking: 16th in the SE field (USA)), USA   *2020 – 2025 (expected)*
Ph.D., Computer Science
Advisor: Prof. Denys Poshyvanyk, IEEE Fellow (# Citations: 23k)

University of Chinese Academy of Sciences, China   *2019*
M.S., Computer Science and Technology

Xiamen University, China   *2016*
B.Eng., Software Engineering, Mathematical Finance Minor

REFEREED PUBLICATIONS

[1] L. Shao, **Y. Yan (Co-First)**, J. Su, and D. Poshyvanyk, "UniGenCoder: Merging Seq2Seq and Seq2Tree Paradigms for Unified Code Generation," in *Proceedings of the 47th IEEE/ACM International Conference on Software Engineering (ICSE'25)*, New Ideas and Emerging Results Track, 2025, under review.

[2] A. Krishna Vajjala, Aj. Krishna Vajjala, **Y. Yan**, S. Pothagoni, D. Poshyvanyk, and K. Moran, "FRAME: Enhancing Multimodal GUI Embeddings with Structural Information", *in Proceedings of the IEEE/ACM 22nd International Conference on Mining Software Repositories (MSR'25)*, 2025, under review.

[3] **Y. Yan**, V. Duong, H. Shao, and D. Poshyvanyk, "Towards More Trustworthy Deep Code Models by Enabling Out-of-Distribution Detection," in *Proceedings of the 47th IEEE/ACM International Conference on Software Engineering (ICSE'25)*, 2025, accepted as a Full Research Paper.

[4] **Y. Yan**, N. Cooper, K. Moran, G. Bavota, D. Poshyvanyk, and S. Rich, "Enhancing Code Understanding for Impact Analysis by Combining Transformers and Program Dependence Graphs," in *Proceedings of the ACM International Conference on the Foundations of Software Engineering (FSE'24)*, 2024, accepted as a Full Research Paper.

[5] **Y. Yan**, N. Cooper, O. Chaparro, K. Moran, and D. Poshyvanyk, "Semantic GUI Scene Learning and Video Alignment for Detecting Duplicate Video-based Bug Reports," in *Proceedings of the 46th IEEE/ACM International Conference on Software Engineering (ICSE'24)*, 2024, accepted as a Full Research Paper.

[6] **Y. Yan**, "On Improving Management of Duplicate Video-based Bug Reports," in *Proceedings of the 46th IEEE/ACM International Conference on Software Engineering (ICSE'24)*, Doctoral Symposium, 2024.

[7] A. Chen**, Y. Yan,** and D. Poshyvanyk, "ACER: An AST-based Call Graph Generator Framework," in *Proceedings of the 23rd IEEE International Working Conference on Source Code Analysis and Manipulation (SCAM'23)*, 2023, accepted as a Full Paper.

HONORS & AWARDS

- ACM SIGSOFT CAPS Travel Grant, ICSE'24   *2024*
- ACM SIGSOFT CAPS Travel Grant, FSE'24   *2024*
- Graduate Research Seed Grant, William & Mary   *2024*
- GSA Conference Award, William & Mary   *2024*
- International Student Opportunity Scholarship, William & Mary   *2024*
- National Scholarship, China   *2018*
- The First Prize in Outstanding Undergraduate Scholarship, Xiamen University   *2013-2015*

TEACHING EXPERIENCE

Advanced Software Engineering (CSCI 635: Graduate)   *Spring 2022 & 2023*
- Invited lecturer and student research project lead, William & Mary

Software Engineering (CSCI 435: Undergraduate)   *Fall 2021 & 2022*
- Teaching assistant and student project lead, William & Mary

Programming for Data Science (CSCI 141: Undergraduate)   *Spring 2022*
- Lab instructor and teaching assistant, William & Mary

Digital Image Processing (Graduate)   *Fall 2017*
- Teaching assistant, University of Chinese Academy of Sciences

STUDENT MENTORSHIP

Graduate Thesis (Non-Committee Graduate Student Mentor)
- Aaron Harris (M.S.) **-** Thesis Title: *Scheduling Contrastive Loss in Continued Transfer Learning for Software Engineering Tasks* (*preparing the manuscript for a journal*)

Graduate & Undergraduate Directed Research

- Viet Duong (Ph.D.) - Project Title: *Towards Trustworthy Code Models by Enabling OOD Detection* (*co-authored [2]*)
- Dipin Khati (Ph.D.) - Project Title: *Few-shot Programming Language Acquisition Using Retrieval Models*
- Liangying Shao (M.S.) - Project Title: *Unifying Seq2Seq and Seq2Tree Paradigms for Code* (*co-authored [1]*)
- Andrew Chen (B.S.) - Project Title: *A Multi-Language Call Graph Generator Framework* (*co-authored [6]*)
- Conor O'Brien (B.S.) - Project Title: *An AST-based Visualization Tool for Explaining LLMs in Code*

FORMAL CONFERENCE PRESENTATIONS & INVITED TALKS

Invited Talks
- "Software Maintenance and Evolution in the Era of Large Pre-trained Models", *at the Department of Computer Science, North Carolina State University (NCSU)*, North Carolina, USA. (Nov. 2024)
- "Enhancing Code Understanding for Impact Analysis by Combining Transformers and Program Dependence Graphs," *at the School of Informatics, Xiamen University*, Xiamen, China. (Dec. 2023)

Conference Paper Presentations
- "Enhancing Code Understanding for Impact Analysis by Combining Transformers and Program Dependence Graphs," *at FSE'24*, Porto de Galinhas, Brazil. (Jul. 2024)

- "Semantic GUI Scene Learning and Video Alignment for Detecting Duplicate Video-based Bug Reports," *at ICSE'24*, Lisbon, Portugal. (Apr. 2024)
- "Enhancing Code Understanding by Combining Transformers and Program Dependence Graphs," *at the ACM Capital Region Celebration of Women in Computing Conference (CAPWIC'24)*, Virginia, USA. (Apr. 2024)

PROFESSIONAL SERVICE

Journal Reviewer

IEEE Transactions on Software Engineering (TSE)	*2024*

External Conference Reviewer

IEEE/ACM International Conference on Software Engineering (ICSE)	*2022, 2023 & 2025*
ACM International Conference on the Foundations of Software Engineering (FSE)	*2023-2024*
IEEE/ACM International Conference on Automated Software Engineering (ASE)	*2022*
IEEE International Conference on Software Maintenance and Evolution (ICSME)	*2022-2024*
IEEE/ACM International Conference on Program Comprehension (ICPC)	*2024*

Student Volunteer

IEEE/ACM International Conference on Software Engineering (ICSE)	*2022*

REFERENCES

Professor Denys Poshyvanyk (Advisor)
- Chancellor Professor of Computer Science
- Graduate Director, IEEE Fellow
- William & Mary (W&M)
- Email: denys@cs.wm.edu

Associate Professor Gabriele Bavota
- Professor of Computer Science
- Università della Svizzera italiana (USI)
- Email: gabriele.bavota@usi.ch

Assistant Professor Kevin Moran
- Assistant Professor of Computer Science
- University of Central Florida (UCF)
- Email: kpmoran@ucf.edu

Assistant Professor Oscar Chaparro
- Assistant Professor of Computer Science
- William & Mary (W&M)
- Email: oscarch@wm.edu