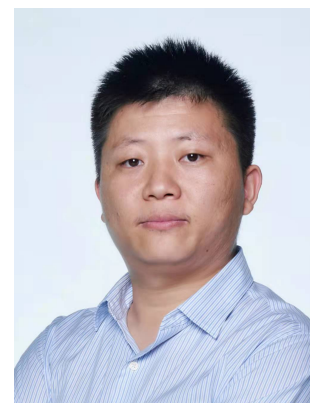## XIE Xiaofei

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Education

Master of Science, Tianjin University, China, 2018

PhD, Tianjin University, China, 2018

Bachelor of Engineering, Tianjin University, China, 2011

Academic Appointments

Assistant Professor of Computer Science, School of Computing and Information Systems, SMU, Jan 2022 - Present

Awards and Honors

ACM SIGSOFT Distinguished Paper Award (ASE'23), ACM SIGSOFT, 2023

3rd place in Trusted Media Challenge, AI Singapore, 2022

ACM SIGSOFT Distinguished Paper Award (ISSTA'22), ACM SIGSOFT, 2022

RESEARCH

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How are deep learning models similar? An empirical study on clone analysis of deep learning software, by WU, Xiongfei; QIN, Liangyu; YU, Bing; XIE, Xiaofei; MA, Lei; XUE, Yinxing; LIU, Yang; ZHAO, Jianjun. (2020.0). *Proceedings of the 28th International Conference on Program Comprehension, Seoul, July 13-15,* (pp. 172-183) Seoul Republic of Korea : Association for Computing Machinery. (Published)

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42nd International Conference on Software Engineering, Seoul, South Korea, 2020, May 23-29, (pp. 765-777) Seoul, South Korea: Association for Computing Machinery. (Published)

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Towards characterizing adversarial defects of deep learning software from the lens of uncertainty, by ZHANG, Xiyue; XIE, Xiaofei; MA, Lei; DU, Xiaoning; HU, Qiang; LIU, Yang; ZHAO, Jianjun; SUN, Meng. (2020.0). *Proceedings of the 42nd International Conference on Software Engineering, Seoul, South Korea, 2020, May 23-29,* (pp. 739-751) Seoul, South Korea: Association for Computing Machinery. (Published)

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A quantitative analysis framework for recurrent neural network, by DU, Xiaoning; XIE, Xiaofei; LI, Yi; MA, Lei; LIU, Yang; ZHAO, Jianjun. (2019.0). *Proceedings of the 34th IEEE/ACM International Conference on Automated Software Engineering, San Diego, 2019 November 11-15,* (pp. 1062-1065) San Diego, California: IEEE. (Published)

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Cerebro: Context-aware adaptive fuzzing for effective vulnerability detection, by LI, Yuekang; XUE, Yinxing; CHEN, Hongxu; WU, Xiuheng; ZHANG, Cen; XIE, Xiaofei; WANG, Haijun; LIU, Yang. (2019.0). *Proceedings of the 2019 27th ACM Joint Meeting on European Software Engineering Conference and Symposium on the Foundations of Software Engineering, Tallinn, Estonia, August 26-30,* (pp. 533-544) Tallinn, Estonia: Association for Computing Machinery. (Published)

DiffChaser: Detecting disagreements for deep neural networks, by XIE, Xiaofei; MA, Lei; WANG, Haijun; LI, Yuekang; LIU, Yang; LI, Xiaohong. (2019.0). *Proceedings of the Twenty-Eighth International Joint Conference on Artificial Intelligence, Macao, 2019 August 10-16,* (pp. 5772-5778) Macao, China: International Joint Conferences on Artificial Intelligence Organization. (Published)

Cross-project defect prediction via ASTToken2Vec and BLSTM-based neural network, by LI, Hao; LI, Xiaohong; CHEN, Xiang; XIE, Xiaofei; MU, Yanzhou; FENG, Zhiyong . (2019.0). *Proceedings of the 2019 International Joint Conference on Neural Networks, Budapest, Hungary, July 14-19,* Budapest, Hungary: IEEE. (Published)

DeepHunter: A coverage-guided fuzz testing framework for deep neural networks, by XIE, Xiaofei; MA, Lei; JUEFEI-XU, Felix; XUE, Minhui; CHEN, Hongxu; LIU, Yang; ZHAO, Jianjun; LI, Bo; YIN, Jianxiong; SEE, Simon;. (2019.0). *Proceedings of the 28th ACM SIGSOFT International Symposium on Software Testing and Analysis, Beijing, China, 2019 July 15-19,* (pp. 146-157) Beijing, China: Association for Computing Machinery. (Published)

Hawkeye: Towards a desired directed grey-box fuzzer, by CHEN, Hongxu; XUE, Yinxing; LI, Yuekang; CHEN, Bihuan; XIE, Xiaofei; WU, Xiuheng; LIU, Yang. (2018.0). *CCS '18: Proceedings of the ACM SIGSAC Conference on Computer and Communications Security, Toronto, October 15-19,* (pp. 2095-2108) New York: ACM. https://doi.org/10.1145/3243734.3243849 (Published)

Loopster: Static loop termination analysis, by XIE, Xiaofei; CHEN, Bihuan; ZOU, Liang; LIN, Shang-Wei; LIU, Yang; LI, Xiaohong. (2017.0). *Proceedings of the 2017 11th Joint Meeting on Foundations of Software Engineering, Paderborn, Germany, September 4-8,* (pp. 84-94) Paderborn, Germany: Association for Computing Machinery. (Published)

Proteus: Computing disjunctive loop summary via path dependency analysis, by XIE, Xiaofei; CHEN, Bihuan; LIU, Yang; LE, Wei; LI, Xiaohong. (2016.0). *Proceedings of the 24th ACM SIGSOFT Symposium on the Foundations of Software Engineering, Seattle, November 13-18, 2016,* (pp. 61-72) Seattle, WA, USA: Association for Computing Machinery. (Published)

Static loop analysis and Its applications, by XIE, Xiaofei. (2016.0). *Proceedings of the 24th ACM SIGSOFT Symposium on the Foundations of Software Engineering, Seattle, November 13-18, 2016,* (pp. 1130-1132) Seattle, WA, USA: Association for Computing Machinery. (Published)

S-Looper: Automatic summarization for multipath string loops, by XIE, Xiaofei; LIU, Yang; LE, Wei; LI, Xiaohong; CHEN, Hongxu. (2015.0). *Proceedings of the 2015 International Symposium on Software Testing and Analysis, Baltimore, July 13-17,* (pp. 188-198) Baltimore, MD, USA: Association for Computing Machinery. (Published)

Research Grants

Singapore Management University

Towards Building Unified Autonomous Vehicle Scene Representation for Physical AV Adversarial Attacks and Visual Robustness Enhancement (Stage 1a), AI Singapore Robust AI Grand Challenge, AI Singapore , Co-PI (Project Level): XIE Xiaofei, 2023

Trustworthy AI Centre NTU (TAICeN), Cyber Security Agency of Singapore (CSA) , Co-PI (Project Level): XIE Xiaofei, SUN Jun, 2023

Automatic non-linear loop summarization and its applications, SMU Internal Grant, Ministry of Education (MOE) Tier 1 , PI (Project Level): XIE Xiaofei, 2021, S$100,000

Other Institutions

Towards Building Unified Autonomous Vehicle Scene Representation for Physical AV Adversarial Attacks and Visual Robustness Enhancement, AISG, AI Singapore - Robust AI Grand Challenge Co-PI (Project Level): XIE Xiaofei, 2023, SGD2,995,800

TRUSTWORTHY AI CENTRE NTU (TAICeN), NCRP, Cyber Security Agency of Singapore Co-PI (Project Level): XIE Xiaofei, 2022, SGD12,364,100

TEACHING

Courses Taught

Singapore Management University

Undergraduate Programmes :

Enterprise Solution Development

Foundations of Cybersecurity

Postgraduate Research Programmes :

Empirical Research Project 1

Empirical Research Project 2

OTHER ACADEMIC AND PROFESSIONAL ACTIVITIES

Consultancy

MetaTrust Labs Pte. Ltd, Nov 2023 - Oct 2025

Media Contributions and Citations

TikTok, A New Political Weapon: Can It Be Moderated?, Channel News Asia, 25 May 2023
https://youtu.be/U6FvLqVtUnE

UNIVERSITY SERVICE

Singapore Management University

Organize a hacking workshop for VJC students, Hacking Workshop for VJC Students, Dec 2022

Organized a professor team and competed against the student teams on hard coding problems. , SCIS DAY and Tic Tac Code, Oct 2022

EXTERNAL SERVICE – PROFESSIONAL

Conference Local Chair, Local Chair, ATVA and PRDC, 2023 - Present

Committee Member, ESEC/FSE SRC & Artifacts 2023, ISSRE 2023, MSR 2023, ASE 2023, ICSE Posters Track 2023 ICCV 2023, ICLR 2023, PRDC 2023, 2023

Guest Editor, IEEE TDSC Special Issue "SI-Reliability and Robustness in AI-Based Cybersecurity Solutions", 2022 - Present

Workshop Organizer, Machine Learning Techniques for Software Quality Evaluation (MaLTeSQuE) , 2022

Editor Associate Editor, Frontiers in Computer Science, 2022 - Present

Workshop Organizer, AI and Software Testing/Analysis (AISTA) , 2022

Reviewer Conference Paper, International Symposium on Software Reliability Engineering (ISSRE) , 2022

Project sponsor, ICSE SCORE 2023, 2022 - Present

Presenter Keynote Address, SEAIS, 2022

Reviewer Conference Paper, ASE ACM Student Research Competition, ESEC/FSE Artifacts, ICCV, AAAI, ICLR, SETTA, 2022 - Present

Reviewer Journal Article, TDSC, TSE, TOSEM, JSS, ACM Computing Surveys, 2022 - Present

Editor Associate Editor, Frontiers in Big Data, 2021 - 2022

EXTERNAL SERVICE – PUBLIC SECTOR AND COMMUNITY SERVICE

Committee Member, Artificial Intelligence Technical Committee, Artificial Intelligence Technical Committee, 2023 - Present

Discussant, AISG Grant Call Workshop on Misinformation Discrimination, AISG , 2022