Yutian Tang

School of Information Science and Technology
ShanghaiTech University
✉ csytang@ieee.org
🖱 www.chrisyttang.org

Assistant Professor

Research Interests

Software Engineering (Program Analysis, Mining Software Repositories, Empirical Software Engineering, Android);
Security (Mobile Security, Fuzzing)

Education

2013.8-2018.9	**Ph.D.**, Department of Computing, The Hong Kong Polytechnic University, Hong Kong SAR, China (QS 2022=66)
Advisor	○ Dr. Xiapu Luo (Associate Professor), and Dr. Hareton Leung (Associate Professor Emeritus)
2009.9-2013.6	**B.Sc.**, Department of Computer Science and Technology, Jilin University, Changchun, China
Advisor	○ Prof. Lan Huang, Associate Dean

Research Positions

2020.10-Present	**Assistant Professor**, *School of Information Science and Technology, ShanghaiTech University (A university affiliated to Chinese Academic of Sciences), China*
2018-2020	**Post-doc Research Fellow**, *The Hong Kong Polytechnic University, Hong Kong SAR, China*
2017-2018	**Part-time Research Assistant**, *The Hong Kong Polytechnic University, Hong Kong SAR, China.*

Fundings

Solo PI

2020-2023	Early career research fund (No.2020F0203-000-14) ShanghaiTech University Grant Amount: 3 million CNY

2021-2023	Vulnerable Components Detection for Apps (No. 21PJ1410700) Shanghai Pujiang Program, Science and Technology Commission of Shanghai Municipality Grant Amount: 300,000 CNY

2018-2020	Improving Mobile Users'Privacy Decisions via Exposing Unexpected Sensitive Operations in Hardened Apps Research Grants Council GRF, Hong Kong Grant Amount:: 416,667 HKD
2018-2020	Research and Development of An Advanced IPS System for Aftermarket Telematics Innovation and Technology Fund (ITF), Hong Kong Grant Amount: 2,386,066 HKD (including 1,899,340 HKD from ITF, and 486,726 from company sponsor);

Publication (* corresponding author)

Summary ESEC/FSE (1); WWW (1); ASE (2); IEEE TSE (3); IEEE TReli (1); SANER (3); ICPC (2); ISSRE (2); JSS (2); IST (2); JCST (1)

JCR-Q1 (9), CCF-A (7), CCF-B(12), Core-A(8)

Conference * 17, Journal * 11

Peer-Review Conference Papers (17)

C.17 Guosheng Xu, Siyi Li, Hao Zhou, Shucen Liu, **Yutian Tang**, Li Li, Xiapu Luo, Xusheng Xiao, Guoai Xu and Haoyu Wang, "Lie to Me: Abusing the Mobile Content Sharing Service for Fun and Profit", *The Web Conference (WWW), 2022*,CORE-A*, CCF-A;

C.16 Zejun Wu, Chao Ma, Xiaochuan Shi, Libing Wu, Dian Zhang, **Yutian Tang**, "BRNN-GAN: Generative Adversarial Networks with Bi-directional Recurrent Neural Networks for Multivariate Time Series Imputation", *IEEE International Conference on Parallel and Distributed Systems,2021*,CCF-C;

C.15 Kunsong Zhao, Zhou Xu, Meng Yan, **Yutian Tang**, Ming Fan, Gemma Catolino, "Just-in-Time Defect Prediction for Android Apps via Imbalanced Deep Learning Model", *The 36th ACM/SIGAPP Symposium On Applied Computing,2021*

C.14 Hao Zhou, Haoyu Wang, Yajin Zhou, Xiapu Luo, **Yutian Tang**, Lei Xu, Ting Wang, "Demystifying Diehard Android Apps", *35th IEEE/ACM International Conference on Automated Software Engineering (ASE),2020* Core A*,CCF-A, Top 3 conference in SE;

C.13 Kunsong Zhao, Zhou Xu, Tao Zhang, **Yutian Tang**, "Simplified Deep Forest Model based Just-In-Time Defect Prediction for Android Mobile Apps", *20th International Conference on Software Quality, Reliability, and Security (QRS),2020* CCF-C;

C.12 **Yutian Tang**, Yulei Sui, Haoyu Wang, Xiapu Luo, Hao Zhou, Zhou Xu, "All Your App Links (are) Belong to Us: Understanding the Threats of Instant Apps based Attacks", *The ACM Joint European Software Engineering Conference and Symposium on the Foundations of Software Engineering (ESEC/FSE),2020*, Core A*,CCF-A, Top 2 conference in SE, the vulnerability reported is confirmed by Google;

C.11 Yan Cai, **Yutian Tang**, Haicheng Li, Le Yu, Hao Zhou, Xiapu Luo, Liang He, Purui Su, "Resource Race Attacks on Android", *27th IEEE International Conference on Software Analysis, Evolution and Reengineering (SANER),2020*, CCF-B, Core A, the vulnerability reported is confirmed by Google;

C.10 **Yutian Tang**, Xian Zhan, Hao Zhou, Xiapu Luo, Zhou Xu, Yajin Zhou, Qiben Yan, "Demystifying Application Performance Management Libraries for Android", *The 34th IEEE/ACM International Conference on Automated Software Engineering (ASE),2019*, CCF-A, Core-A*;

C.9 Zhou Xu, Sizhe Ye, Tao Zhang, Zhen Xia, Shuai Pang, Yong Wang, **Yutian Tang**,"MVSE: Effort- Aware Heterogeneous Defect Prediction via Multiple-View Spectral Embedding", 19th International Conference on Software Quality, Reliability, and Security (QRS),2019, CCF-C;

C.8 Zhou Xu, Shuai Pang, Yifeng Zhang, **Yutian Tang**, Jin Liu, Xiapu Luo, Jacky Keung, Xiaohui Cui,"Identifying Crashing Fault Residence Based on Cross Project Model",International Symposium on Software Reliability Engineering (ISSRE), 2019, CCF-B, Core-A;

C.7 Xian Zhan, Tao Zhang, **Yutian Tang**,"A Comparative Study of Android Repackaged Apps Detection Techniques", 2019 IEEE International Conference on Software Analysis, Evolution, and Reengineering (SANER),2019, CCF-B, Core-A;

C.6 Xuejiao Zhao, Hongwei Li, **Yutian Tang**, Dongjing Gao, Lingfeng Bao, Chinghung Lee,"A Smart Context-aware Program Assistant based on Dynamic Programming Event Modeling",The 29th IEEE International Symposium on Software Reliability Engineering (ISSRE), 2018, CCF-B, Core-A, Best Industrial Paper Award;

C.5 Zhou Xu, Shuai Li, **Yutian Tang**, Xiapu Luo, Tao Zhang, Jin Liu, Jun Xu,"Cross Version Defect Prediction with Representative Data via Sparse Subset Selection",26th IEEE/ACM International Conference on Program Comprehension (ICPC), 2018, CCF-B, Core-B;

C.4 **Yutian Tang**, Hareton Leung,"Constructing Feature Model by Identifying Variability-aware Modules", 25th IEEE/ACM International Conference on Program Comprehension (ICPC), 2017, CCF-B;

C.3 **Yutian Tang**, Hareton Leung,"StiCProb: A Novel Feature Mining Approach using Conditional Probability", 24th IEEE International Conference on Software Analysis, Evolution, and Reengineering (SANER), 2017, CCF-B, Core-A

C.2 **Yutian Tang**, Hareton Leung,"Feature Mining for Product Line Construction", The First International Conference on Advances and Trends in Software Engineering (SOFTENG), 2015;

C.1 **Yutian Tang**, Hareton Leung,"A Top-down Feature Mining Framework for Software Product Line", 17th International Conference on Enterprise Information Systems (ICEIS), 2015;

Peer-Review Journal Articles (11)

J.11 Le Yu, Haoyu Wang, Xiapu Luo, Tao Zhang, Kang Liu, Jiachi Chen, Hao Zhou, **Yutian Tang**, Xusheng Xiao, "Towards Automatically Localizing Function Errors in Mobile Apps with User Reviews", *IEEE Transactions on Software Engineering, 2022* Top-1 Journal in SE field, CCF-A, IF=6.226

J.10 Jian Huang, Shanhui Liu, **Yutian Tang***, Xiushan Zhang,"Object-Level Remote Sensing Image Augmentation Using U-Net-Based Generative Adversarial Networks", *Wireless Communication and Mobile Computing*,CCF-C, 2021;

J.9 **Yutian Tang**, Hao Zhou, Xiapu Luo, Ting Chen, Haoyu Wang, Zhou Xu, and Yan Cai, "XDebloat: Towards Automated Feature-Oriented App Debloating", *IEEE Transactions on Software Engineering, 2021* Top-1 Journal in SE field, CCF-A, IF=6.226

J.8 Zhen Yang, Jacky Keung, Md Alamgir Kabir, Xiao Yu, **Yutian Tang**, Miao Zhang, Shuo Feng, "AComNN: Attention Enhanced Compound Neural Network For Financial Time-Series Forecasting With Cross-Regional Features", *Applied Soft Computing, 2021* JCR-Q1, IF=5.47

J.7 Kunsong Zhao, Zhou Xu, Tao Zhang, **Yutian Tang**, Meng Yan, "Simplified Deep Forest Model based Just-In-Time Defect Prediction for Android Mobile Apps", *IEEE Transactions on Reliability, 2021* JCR-Q1;

J.6 **Yutian Tang***, Haoyu Wang, Xian Zhan, Xiapu Luo*, Yajin Zhou, Hao Zhou, Qiben Yan, Yulei Sui, Jacky Keung, "A Systematical Study on Application Performance Management Libraries for Apps", *IEEE Transactions on Software Engineering, 2021* Top-1 Journal in SE field, JCR-Q1; IF=6.226;

J.5 Zhou Xu, Tao Zhang, Jacky Keung, Meng Yan, Xiapu Luo, Xiaohong Zhang, Ling Xu, **Yutian Tang**,"Feature Selection and Embedding Based Cross Project Framework for Identifying Crashing Fault Residence"*Information and Software Technology (IST), 2020, CCF-B,JCR-Q2*;

J.4 Zhou Xu, Shuai Li, Jun Xu, Jin Liu, Xiapu Luo, Yifeng Zhang, Tao Zhang, Jacky Keung, **Yutian Tang**, "LDFR: Learning deep feature representation for software defect prediction",Journal of Systems and Software (JSS), 2019, JCR-Q1;

J.3 Zhou Xu, Shuai Pang, Tao Zhang, Xiapu Luo, **Yutian Tang**, Xiao Yu, Lei Xue,"Cross Project Defect Prediction via Balanced Distribution Adaptation based Transfer Learning",Journal of Computer Science and Technology (JCST), 2019, CCF-B;

J.2 Zhou Xu, Shuai Li, Xiapu Luo, Jin Liu, Tao Zhang, **Yutian Tang**, Jun Xu, Peipei Yuan, Jacky Keung,"TSTSS: A Two-Stage Training Subset Selection Framework for Cross Version Defect Prediction",Journal of System and Software (JSS), 2019, CCF-B, JCR-Q1;

J.1 Zhou Xu, Jin Liu, Xiapu Luo, Zijiang Yang, Yifeng Zhang, Peipei Yuan, **Yutian Tang**, Tao Zhang, "Software Defect Prediction Based on Kernel PCA and Weighted Extreme Learning Machine",Information and Software Technology (IST), 2018, CCF-B, JCR-Q1;

Academic Service

Grant Referee

Grant Reviewing Committee **Shanghai Innovation Grant Reviewing Committee**, 2021

Editorship

Review Editor **Frontiers in Computer Science** (ESCI Indexed)

Academic Editor **Scientific Computing** (SCIE Indexed)

Academic Editor **PLOS One** (SCI Indexed)

Technical Committee Member

Committee Member **CCF-Technical Committee of Software Engineering**

Committee Member **CCF-Technical Committee of System Software**

Committee Member **Shanghai Computer Society-Technical Committee of Software Engineering**

Technical Committee Member **IEEE Technical Committee on Software Engineering (TCSE)**

Conference Program Committee Member

ESEC/FSE **The ACM Joint European Software Engineering Conference and Symposium on the Foundations of Software Engineering (ESEC/FSE)**
Research Track (2023)

PLDI **Programming Language Design and Implementation (PLDI)**
Artefact Evaluation Track (2022)

SANER **IEEE International Conference on Software Analysis, Evolution and Reengineering (SANER)**
Research Track (2023)

FTC **Future Technologies Conference**
Research Track (2022)

SEKE **International Conference on Software Engineering & Knowledge Engineering, (SEKE)**
Research Track (2022);

MobileSoft	**IEEE/ACM International Conference on Mobile Software Engineering and Systems (MobileSoft)** Research Track (2022), Industry Track (2022);
ICSE	**International Conference on Software Engineering (ICSE)** Artefact Evaluation Track (2022)
ModernSys	**International Conference of Modern Systems Engineering Solutions** Research Track(2022)
ICPC	**International Conference on Program Comprehension (ICPC)** Research Track (2022);
ChinaSoft	**CCF Chinasoft Conference (ChinaSoft)** Software & Data Intelligence Track(2021)
ESEC/FSE	**The ACM Joint European Software Engineering Conference and Symposium on the Foundations of Software Engineering (ESEC/FSE)** Artefact Evaluation Track (2021, 2022)

Journal Reviewer

Reviewer	**IEEE Transactions on Dependable and Secure Computing;**
Reviewer	**Journal of Computer Security;**
Reviewer	**IEEE Transactions on Reliability;**
Reviewer	**IEEE Transactions on Software Engineering;**
Reviewer	**Automated Software Engineering (ASE);**
Reviewer	**Frontier of Computer Science;**
Reviewer	**SN Applied Sciences;**
Reviewer	**Scientific Programming;**
Reviewer	**Frontiers of Information Technology & Electronic Engineering;**
Reviewer	**SCIENCE CHINA Information Sciences;**
Reviewer	**IEEE Access;**
Reviewer	**Security and Communication Networks;**
Ad-hoc Reviewer	**Journal of Information Technology Research;**
Sub-reviewer	IEEE Transactions on Services Computing, IEEE Transactions on Biometrics, Behavior and Identity Science, ACM Transactions on Software Engineering and Methodology (TOSEM)

News Interview

VOC, CCTV	12/Aug/2021 – The Voice of China, China Central Television; [see `https://mp.weixin.qq.com/s/glvaDNdsAAXrdAn9imDgnQ` (in Chinese)]
VOC, CCTV	25/May/2022 – The Voice of China, China Central Television; [see `https://content-static.cctvnews.cctv.com/snow-book/index.html?toc_style_id=feeds_default&share_to=wechat&item_id=631265256291590857&track_id=ABAA3E71-3BC8-468E-BB30-E7749E30EBB7_675580162403` (in Chinese)]

Awards & Scholarships

2021	**Shanghai Pujiang Talent Program**, Science and Technology Commission of Shanghai Municipality
2018	**Best Industry Paper Award** International Symposium on Software Reliability Engineering, Paper: "A Smart Context-aware Program Assistant based on Dynamic Programming Event Modeling"
2013–2017	**Ph.D. Scholarships**,The Hong Kong Polytechnic University
2012	**Undergraduate Research Award,First Prize**,Jilin University
2012	**Undergraduate Scholarships,Second Prize**, Jilin University
2011	**Undergraduate Scholarships,Third Prize**, Jilin University

Professional Qualifications & Membership

2020–Present	**Member**, China Computer Federation (CCF)
2020–Present	**Member**,EuroSys
2017–Present	**Member**,ISACA
2017–Present	**Member**,IEEE
2021–Present	**Member**,ACM
2017–Present	**Member**,HKCS
2012–Present	**Senior Software Engineer**, under "China Qualification Certificate of Computer Science Technology Proficiency"

Teaching

Instructor

Instructor-ShanghaiTech	CS132 Software Engineering, ShanghaiTech University; 2021 (Spring,Fall) (Course for Undergraduate), (in English and Chinese);
Instructor-ShanghaiTech	CS224 Program Analysis, ShanghaiTech University; 2022 (Spring) (Course for Graduate), in English and Chinese);

Teaching Assistant

TA-PolyU.HK	COMP3235, Software Project Management, Department of Computing; (Course for both Undergraduate);
TA-PolyU.HK	COMP3233, Software Testing and Quality Assurance, Department of Computing;(Course for both Undergraduate);
TA-PolyU.HK	COMP4911, Capstone Project, Department of Computing; (Course for both Undergraduate);
TA-PolyU.HK	COMP3211, Software Engineering, Department of Computing; (Course for both Undergraduate);
TA-PolyU.HK	COMP309, System Programming, Department of Computing; (Course for both Undergraduate);
TA-PolyU.HK	COMP322, Enterprise Information Systems Project Implementation, Department of Computing (Course for both Undergraduate);

Mentoring Experience

MSc. and Ph.D. Student

2022–2025	2 Students: Z. Liu, H. Hu
2021–2024	5 Students: k. Cao, Y. Su, Z. Zhou, X. Zhang, M. Yang

Undergraduate Research Interns

2021–Present	2 Students: H. Cao, P. He

Undergraduate Final Year Project

2022	4 Students: H. Jing, X. Shen, Y.Feng, Z. Tang
2021	1 Student: T. Zhao (TICP Shanghai)

Conference Talks & Invited Talks

Fudan University	"Demystifying Application Performance Management Libraries for Android", **Yutian Tang**, Fudan University, 8/4/2021, Seminar;
ShanghaiTech University	"System Security, Are We There Yet?", **Yutian Tang**, School of Information Science and Technology, ShanghaiTech University, 6/11/2020, Undergraduate Seminar;
Invited Speaker	The 12th International Conference on Advanced Infocomm Technology(2020);
ShanghaiTech University	"Android, Don't Lie to Me", **Yutian Tang**, ShanghaiTech University, China;
Queen's University Belfast	"Android, Don't Lie to Me", **Yutian Tang**, Queen's University Belfast, United Kingdom;
University of East London	"Android, Don't Lie to Me", **Yutian Tang**, University of East London,United Kingdom
University of Dundee	"Android, Don't Lie to Me", **Yutian Tang**, University of Dundee, United Kingdom;
University of Central Lancashire	"Android, Don't Lie to Me", **Yutian Tang**, University of Central Lancashire, United Kingdom;
University of Canterbury	"Android, Don't Lie to Me", **Yutian Tang**, University of Canterbury, New Zealand;
ESEC/FSE'20	"All Your App Links are Belong to Us: Understanding the Threats of Instant Apps based Attacks", **Yutian Tang**, in *The ACM Joint European Software Engineering Conference and Symposium on the Fundations of Software Engineering*;
Tongji University	"All Your App Links are Belong to Us: Understanding the Threats of Instant Apps based Attacks", **Yutian Tang**, School of Software, Tongji University;
ASE'19	"Demystifying Application Performance Management Libraries for Android,", **Yutian Tang** in *34th IEEE/ACM International Conference on Automated Software Engineering*;

SANER'17 "StiCProb: A Novel Feature Mining Approach Using Conditional Probability", **Yutian Tang**, in *Proceedings of 24th IEEE International Conference on Software Analysis, Evolution, and Reengineering*;

ICPC'17 "Constructing Feature Model by Identifying Variability-aware Modules", **Yutian Tang**, in *IEEE/ACM International Conference on Program Comprehension*;

SOFTENG'15 "Feature Mining for Product Line Construction", **Yutian Tang**, in *The First International Conference on Advances and Trends in Software Engineering*;

ICEIS'15 "Top-down Feature Mining Framework for Software Product Line," **Yutian Tang**, in *Proceedings of the International Conference on Enterprise Information System*;

University & Department Service

2021 Undergraduate Admission Coordinator, ShanghaiTech University, Hangzhou (Zhejiang); 28/6/2021-1/7/2021

2021 Graduate recruiting at Jilin University, Changchun, 11/6/2021

2021 Graduate recruiting at Northeastern University, Shenyang

2021 Undergraduate Admission Coordinator, ShanghaiTech University, Tianjin City; 24/4/2021, 25/4/2021

2021 PI Interview Committee, System and Security Center, 1C-201, SIST, ShanghaiTech University, 4/3/2021; 11/3/2021

2021 Graduate Admission Interview, School of Information Science and Technology, 1A-302, SIST, ShanghaiTech University, 19/3/2021

2020 Modular High Performance Computing Application Innovation Workshop, 26/11/2020-Room 110, Administration Center, ShanghaiTech University

2020 Graduate Admission Interview, School of Information Science and Technology, 1A-212, SIST, ShanghaiTech University, 23/10/2020;13/09/2020

2020 Undergraduate Seminar, "System Security, Are We There Yet?", School of Information Science and Technology, ShanghaiTech University, 6/11/2020

2020 PI Interview Committee, System and Security Center, 1C-201, SIST, ShanghaiTech University, 19/11/2020

References

Available upon requests.