Yutian Tang

Curriculum Vitae

Education

2013–2018 **Ph.D.**, *The Hong Kong Polytechnic University*, Hong Kong.
Department of Computing

2009–2013 **Bachelor**, *Jilin University*, Changchun, P.R.China.
Department of Computer Science and Technology

Research Interests

Software product line, configurable system, bug prediction, system security and profiling;

Working Experience

2018–Curr **Member of JetBrains Marketplace Early Access Program**, *Marketing Group*, JetBrain.

2018–Curr **Research Intern**, *Department of Computing*, The Hong Kong Polytechnic University.

2017–2018 **Part-time Research Assistant**, *Department of Computing*, The Hong Kong Polytechnic University.
Involve in RGC project with Hong Kong Government.
○ Implement a crawler tool named *inappcrawler* for Google Play with Scrapy framework;
○ Decompile and analyse the Google Service Framework with Apktool, dex2jar, and JD;
○ Implement an Android app testing tool named mumu;

2014–2015 **Part-time Student Helper**, *Educational Development Centre*, The Hong Kong Polytechnic University.
○ Enrol in course team for designing course material and present those online;
○ Develop the front-end webpage for the department;
  – Skill-set: HTML, CSS, JS, JQuery, Android, Java backend;
  – Tools: Android Studio, Dreamweaver;
  – Ability: Programming, problem solving, team work;

Publications

2018 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*.

2018 Xuejiao Zhao, Hongwei Li, **Yutian Tang**, Dongjing Gao, Lingfeng Bao, Chinghung Lee,"A Smart Context-aware Program Assistant based on Dynamic Programming Event Modeling". *In Proceedings of 29th The 29th IEEE International Symposium on Software Reliability Engineering (ISSRE), accepted*

2018   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". *In Proceedings of 26th IEEE International Conference on Program Comprehension (ICPC), pp 132-143.*

2017   **Yutian Tang**, Hareton Leung, "StiCProb: A Novel Feature Mining Approach Using Conditional Probability", *In Proceedings of 24th IEEE International Conference on Software Analysis, Evolution, and Reengineering (SANER) pp 45-55.*

2017   **Yutian Tang**, Hareton Leung, "Constructing Feature Model by Identifying Variability-aware Modules", *In Proceedings of 25th IEEE International Conference on Program Comprehension (ICPC) pp 263-274.*

2015   **Yutian Tang**, Hareton Leung, "Top-down Feature Mining Framework for Software Product Line", *In Proceedings of International Conference on Enterprise Information System (ICEIS) pp 71-81.*

2015   **Yutian Tang**, Hareton Leung, "Feature Mining for Product Line Construction", *In Proceedings of The First International Conference on Advances and Trends in Software Engineering pp 29-33.*

Professional Qualifications & Membership

2017   Member of ISACA

2017   Student Member of IEEE, and HKCS

2012   Intermediate Title of Software Engineer (China Qualification Certificate of Computer Science Technology Proficiency)

Projects and Tools

2017.9-
current
   Mumu: An Extension of Monkeyrunner for Testing Android Apps.
- Implement a wrapper for Monkeyrunner testing tool, with additional function of recording testing script, playback, and collecting extra information during execution;
- Implement a tool for monkey log understanding;
- Skillset: IntelliJ, Java, Android;

2017.9-
2017.11
   caIDE, *Colored IDE for Android Apps*.
- Implement an colored IDE as an Android Studio plugin, which allows developers to highlight color fragments with different background colors;
- caIDE allows developers find functions/service and underlying interactions between these service;
- Skillset: IntelliJ, Java, Android;

2017.7-
2017.8
   Google-Play-Spider and APK understanding Tool.
- Hong Kong SAR government project under RGC entitled "Improving Mobile Users' Privacy Decisions via Exposing Unexpected Sensitive Operations in Hardened Apps";
- Implements a crawler tool for scanning and downloading free apks from Google Play with Scrapy framework and SQLite DB;
- Skillset: Scrapy, SQLite, Python;

2016-2017 **TypeC**, *Eclipse plugin toolkit for conditional compilation with CDT.*
- Rewrite the CDT parser for processing all possible configuration options with a single scanning;
- Implement the analysis framework for understanding configuration and find valid configuration with a single iteration;
- Skillset: Java, Eclipse CDT, plugin, C;
- URL:http://www.chrisyttang.org/typec/

2016-2017 **LoongFMR**, *Eclipse plugin toolkit for product line architecture understanding with JDT.*
- Implement the main framework, comparison approaches using graph optimisation, NLP, and static analysis;
- Except the static analysis, architectures are extracted and presented;
- Skillset: Java, Eclipse JDT, plugin;
- URL:http://www.chrisyttang.org/loong_fmr/

2015-2016 **Loong**, *Eclipse plugin toolkit for product line understanding with JDT.*
- Implement the main framework and details for product line analysis;
- Implement static analysis, including build the program database(AST based), control flow, data flow, points-to analysis;
- Data extraction and analysis with R;
- Skillset: Java, Eclipse JDT, plugin;
- URL:http://www.chrisyttang.org/loong/

2015-2016 **Course project**, *P2P data sharing toolkit on Android.*
- A course project, which aims at implementing a p2p data sharing;
- Enable p2p chat, audio/video transformation/sharing over XMPP and SIP;
- Skillset: Android, Socket;
- Implement the data sharing module for text, video, and audio;

Skills

- OO Programming: Java, Python, C++, Android;
- Web: HTML, CSS, JS, JQuery, Java, Php, Spring+MyBatis;
- DB: MySQL, MongoDB;
- Framework: Eclipse (JDT, CDT), IntelliJ, Soot, Boot, Eclipse plugin, Matlab;
- Android-related tools: Apktool, dex2jar, Robotium, Monkeyrunner;

Teaching

2016–2017(1) **COMP3235**, *Software Project Management*, Department of Computing.

2016–2017(2) **COMP3233**, *Software Testing and Quality Assurance*, Department of Computing.

2015-2016(1) **COMP4911**, *Capstone Project*, Department of Computing.

2015-2016(2) **COMP3211**, *Software Engineering*, Department of Computing.

2014-2015 **COMP3235**, *Software Project Management*, Department of Computing.

2013-2014(1) **COMP309**, *System Programming*, Department of Computing.

2013-2014(2) **COMP322**, *Enterprise Information Systems Project Implementation*, Department of Computing.

References

- Dr. Denial Xiapu Luo, Assistant Professor @ HK PolyU, Email:csxluo@comp.polyu.edu.hk;
- Dr. Hareton Leung, Associate Professor @ HK PolyU, Email: cshleung@comp.polyu.edu.hk;
- Dr. Ting Chen, Associate Professor @UESTC P. R. China, Email: brokendragon@uestc.edu.cn;
- Dr. Liu Yan Wang, Dennis, Teaching Fellow @ HK PolyU, Email: csdennis@comp.polyu.edu.hk

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