

	<p>Abhik ROYCHOUDHURY</p> <p><a href="mailto:abhik@nus.edu.sg">abhik@nus.edu.sg</a>  <a href="https://abhikrc.com">https://abhikrc.com</a>  <a href="#">LinkedIn</a></p>	<p>Provost's Chair Professor National University of Singapore &amp; Editor-in-Chief ACM TOSEM.</p>
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**Research Interests:** Program Analysis, Software Security, AI agents.

**Education** Ph.D. in Computer Science, State University of New York at Stony Brook, 2000.

**Employment** National University of Singapore (NUS), School of Computing, since 2001.

- Professor, Computer Science Department (2014 - now).
  - Provost's Chair Professor (2020 – now).
  - Senior Scientific Advisor, Sonar, 2025-26.
- Associate Professor, Computer Science Department (2007-2014).
- Assistant Professor, Computer Science Department (2001-2007).

#### Recent Projects and Initiatives

- AI for Program Reasoning, NRF AI for Science Grant, Co-Lead PI, 2026-30.
- Fuzz Testing, CSA National Cybersecurity R&D program, Lead PI, \$6.7M, 2023-27.
- Automated Program Repair, Ministry of Education Tier 3, Lead PI, \$7.5M, 2022-27.
- AI for Program Reasoning, NRF AI for Science Program, Co-Lead PI, \$10M, 2026-30.
- National Satellite of Excellence in Trustworthy Software Systems, Director, \$12M, 19-23.
- Descartes – Intelligent Modeling for Decision making in Critical Urban Systems, Co-director, NRF CREATE with CNRS France, \$25M, 2021-26.

#### Selected Publications (up to 5)

- [SemFix: Program Repair via Semantic Analysis](#), ICSE 2013.
- [Coverage-based Greybox Fuzzing as Markov Chain](#), CCS 2016.
- [AutoCodeRover: Autonomous Program Improvement](#), ISSTA 2024.
- [Directed Greybox Fuzzing](#), CCS 2017.
- [Angelix: Scalable Multi-line Program Patch Synthesis via Symbolic Analysis](#), ICSE 2016.

#### Recent Honors and Awards

- Fellow of the ACM, 2024, “*for contributions to software testing and analysis including automated program repair and fuzz testing.*”
- NUS Outstanding Graduate Mentor Award (inaugural recipient), 2024.
- 2023 ICSE [Most Influential Paper Award](#) (Test-of-Time) for ICSE 2013 paper SemFix.
- IEEE TCSE New Directions Award 2022 (awarded jointly with Cristian Cadar).

#### Significant Professional Appointments

- Editor-in-Chief, ACM Transactions on Software Engineering and Methodology (TOSEM) from 2025.

- Steering Committee Chair, ACM SIGSOFT Foundations of Software Engineering (FSE).
- General Chair, FSE 2022, held in Singapore.
- Program Co-chair, International Conference on Software Engineering (ICSE) 2024.
- Program Chair, Intl. Symposium on Software Testing and Analysis (ISSTA) 2016.
- Associate Editor, Communications of the ACM, from 2023.
- Chaired many award committees including ACM SIGSOFT Impact Paper Award 2024-25 and ACM SIGSAC Doctoral Dissertation Award in Security and Privacy, 2025.
- Lead of Foundational Research Capability Task force to study capabilities in Security and Data Privacy for Singapore (appointed by National Research Foundation), 2021–22.

### Translational Impact (first one is most relevant)

- AutoCodeRover, NUS spin-off on AI Software Engineer acquired by SonarSource, leading to many R&D jobs being created in Singapore ( [Announcement](#) )
- [AFLFast](#) and [AFLGo](#) as extended grey-box fuzzing tools, for detecting program vulnerabilities. AFLFast has been integrated to the regular AFL distribution.
- Set up and ran Singapore Cybersecurity Consortium in 2016-22, involving 25 companies, the first industry consortium in Computer Science in Singapore.
- [Angelix](#) and related tools for program repair, used for intelligent tutoring to teach programming to students, collaboration with IIT Kanpur, Monash Malaysia.

### Sample PhD Student Placement

- Ridwan Shariffdeen, PhD NUS → Principal Research Scientist, SonarSource Singapore.
- Van Thuan Pham, PhD NUS → University of Melbourne, Australia, Senior Lecturer.
- Marcel Böhme, PhD NUS → Max-Planck Institute (MPI), Germany, faculty member.
- Xiang Gao, PhD NUS → Beihang University, China as Associate Professor.
- Shin Hwei Tan, PhD NUS → Concordia Univ, Canada, Chaired Associate Professor, Winner of ACM-W Rising Star Award, given to one early career female faculty member.
- Dawei Qi, PhD NUS → CTO, Shenzhen Secidea Network Security Tech. Co. Ltd.
- Zhiyu Fan, PhD NUS → Senior Researcher, Microsoft Research Cambridge, UK.

### Recent Invited Lectures and Keynotes

- Plenary Speech, “Agentic AI for Software: Lessons in Trust”, InnovFest Suzhou, Oct 25.
- Keynote, Software Engineering for Machine Learning Applications (SEMLA) Symposium, Montreal Canada, 2025.
- Keynote, 16<sup>th</sup> International Conference on Internetware, Trondheim, Norway, 2025.
- Recent Distinguished Lectures at Max Planck Inst. (2024), TU Delft Netherlands (2025).
- Invited Award Talk, International Conference on Software Engineering (ICSE), May 23.
- Invited Tutorial, Embedded Systems Week, October 2022.
- *Past Keynotes include:* 17<sup>th</sup> Innovations in Software Engineering Conference (ISEC) 24, 27<sup>th</sup> Asia-Pacific Software Engg. Conf. (APSEC) 20.

**Teaching** Introduced *Software Testing (undergrad)*, *Software Security (undergrad)* at NUS. Authored a textbook “[Embedded Systems and Software Validation](#)” under Elsevier in 2009. Introduced several courses including Software Testing, Software Security.

**Citations** <https://scholar.google.com.sg/citations?user=UxFWSJIAAAAJ&hl=en>