Raffi Khatchadourian | Assistant Professor–Computer Science

695 Park Avenue, Room HN 1090-H – New York, NY 10065

212-650-3988 • raffi.khatchadourian@hunter.cuny.edu
cs.hunter.cuny.edu/~Raffi.Khatchadourian99

Education

Computer Science & Engineering, Ohio State University — **Columbus, OH**
Ph.D. — *2011*

Computer Science & Engineering, Ohio State University — **Columbus, OH**
M.S. — *2010*

Computer Science, Monmouth University — **West Long Branch, NJ**
B.S. — *2004*

Experience

City University of New York (CUNY) — **New York, NY**
Assistant Professor — *2014–*

- Computer Science, Hunter College (August 2016–).
- Computer Science, Graduate Center (December 2016–).
- Computer Systems Technology, New York City College of Technology (August 2014–July 2016).

Apple Inc. — **Cupertino, CA**
Software Engineer — *2011–2014*

- Digital Rights Management (DRM) (June 2012–August 2014).
- Hardware Test Engineering for iPhone, iPad, and iPod Engineering (April 2011–May 2012).

Computer Science & Engineering, Ohio State University — **Columbus, OH**
Graduate Teaching & Research Associate — *2005–2011*

Graphics & Computer Science, University of Tokyo — **Tokyo, Japan**
Visiting Scholar — *2010*

Computing, Lancaster University — **Lancaster, UK**
Visiting Scholar — *2008*

Computer Sciences Research Center, Bell Laboratories, Alcatel-Lucent — **Murray Hill, NJ**
Research Intern — *2007*

State of New Jersey Office of Information Technology — **Trenton, NJ**
Software Engineer — *2004–2005*

Integrated Medical Care — **Toms River, NJ**
UNIX Systems Administrator — *2003–2004*

Publications

(My and my research students' names are **boldfaced**, undergraduate students are *italicized*, and female students are underlined.)

Conference Publications (peer-reviewed)

Yiming Tang, **Raffi Khatchadourian**, Mehdi Bagherzadeh, Rhia Singh, Ajani Stewart, and Anita Raja. An empirical study of refactorings and technical debt in Machine Learning systems. In *submission to International Conference on Software Engineering*, ICSE '21. ACM/IEEE, May 2021.

Yiming Tang, **Allan Spektor**, **Raffi Khatchadourian**, and Mehdi Bagherzadeh. Automated evolution of feature logging statement levels using Git histories and degree of interest. In *submission to International Conference on Software Engineering*, ICSE '21. ACM/IEEE, May 2021.

Mehdi Bagherzadeh, Nicholas Fireman, Anas Shawesh, and **Raffi Khatchadourian**. Actor concurrency bugs: A comprehensive study on symptoms, root causes, API usages, and differences. *Proc. ACM Program. Lang.*, 4(OOPSLA), November 2020. (109/302; 36% acceptance rate).

Raffi Khatchadourian, **Yiming Tang**, Mehdi Bagherzadeh, and Baishakhi Ray. An empirical study on the use and misuse of Java 8 streams. In Heike Wehrheim and Jordi Cabot, editors, *Fundamental Approaches to Software Engineering*, FASE '20, pages 97–118, Cham, April 2020. ETAPS, Springer International Publishing. (23/81; 28% acceptance rate). **EAPLS Best Paper Award** 🏆.

Mehdi Bagherzadeh and **Raffi Khatchadourian**. Going big: A large-scale study on what big data developers ask. In *Joint Meeting on European Software Engineering Conference and Symposium on the Foundations of Software Engineering*, ESEC/FSE 2019, pages 432–442, New York, NY, USA, August 2019. ACM, ACM. (74/303; 24.4% acceptance rate).

Raffi Khatchadourian, **Yiming Tang**, Mehdi Bagherzadeh, and Syed Ahmed. Safe automated refactoring for intelligent parallelization of Java 8 streams. In *International Conference on Software Engineering*, ICSE '19, pages 619–630, Piscataway, NJ, USA, May 2019. ACM/IEEE, IEEE Press. (109/529; 20.6% acceptance rate).

Raffi Khatchadourian, **Yiming Tang**, Mehdi Bagherzadeh, and Syed Ahmed. A tool for optimizing Java 8 stream software via automated refactoring. In *International Working Conference on Source Code Analysis and Manipulation*, SCAM '18, pages 34–39. IEEE, IEEE Press, September 2018. Engineering Track. (9/17; 53% acceptance rate). **Distinguished Paper Award** 🏆.

Raffi Khatchadourian and Hidehiko Masuhara. Proactive empirical assessment of new language feature adoption via automated refactoring: The case of Java 8 default methods. In *International Conference on the Art, Science, and Engineering of Programming*, volume 2 of *Programming '18*, pages 6:1–6:30. AOSA, March 2018.

Raffi Khatchadourian and Hidehiko Masuhara. Automated refactoring of legacy Java software to default methods. In *International Conference on Software Engineering*, ICSE '17, pages 82–93, Piscataway, NJ, USA, May 2017. ACM/IEEE, IEEE Press. (68/398; 17% acceptance rate).

Raffi Khatchadourian, Awais Rashid, Hidehiko Masuhara, and Takuya Watanabe. Detecting broken pointcuts using structural commonality and degree of interest. In *International Conference on Automated Software Engineering*, ASE '15, pages 641–646, New York, NY, USA, November 2015. IEEE/ACM. (77/326; 23.6% acceptance rate).

Neelam Soundarajan, Derek Bronish, and **Raffi Khatchadourian**. Formalizing reusable aspect-oriented concurrency control. In *International Conference on Software Engineering & Knowledge Engineering*, SEKE '11, pages 111–114. Knowledge Systems Institute Graduate School, July 2011.

Raffi Khatchadourian, Phil Greenwood, Awais Rashid, and Guoqing Xu. Pointcut rejuvenation: Recovering pointcut expressions in evolving aspect-oriented software. In *International Conference on Automated Software Engineering*, ASE '09, pages 575–579, Washington, DC, USA, November 2009. IEEE/ACM. (71/222; 32% acceptance rate).

Neelam Soundarajan, **Raffi Khatchadourian**, and Johan Dovland. Reasoning about the behavior of aspect-oriented programs. In J. Smith, editor, *International Conference on Software Engineering and Applications*, SEA '07, pages 198–202, USA, November 2007. IASTED, ACTA Press.

Raffi Khatchadourian, Jason Sawin, and Atanas Rountev. Automated refactoring of legacy Java software to enumerated types. In *International Conference on Software Maintenance*, ICSM '07, pages 224–233. IEEE, October 2007. (46/214; 21% acceptance rate).

Journal Publications (peer-reviewed)

Mehdi Bagherzadeh, Syed Ahmed, Srilakshmi Sripathi, and **Raffi Khatchadourian**. What do concurrency developers ask about? A large-scale study on Stack Overflow. *In submission to Science of Computer Programming*, October 2020.

Raffi Khatchadourian, **Yiming Tang**, and Mehdi Bagherzadeh. Safe automated refactoring for intelligent parallelization of Java 8 streams. *Science of Computer Programming*, 195:102476, 2020.

Raffi Khatchadourian. Automated refactoring of legacy Java software to enumerated types. *Automated Software Engineering*, 24(4):757–787, December 2017.

Raffi Khatchadourian, Awais Rashid, Hidehiko Masuhara, and Takuya Watanabe. Detecting broken pointcuts using structural commonality and degree of interest. *Science of Computer Programming*, 150:56–74, December 2017.

Raffi Khatchadourian, Phil Greenwood, Awais Rashid, and Guoqing Xu. Pointcut rejuvenation: Recovering pointcut expressions in evolving aspect-oriented software. *IEEE Transactions on Software Engineering*, 38(3):642–657, May 2012.

Workshop Publications (peer-reviewed)

Raffi Khatchadourian, ***Olivia Moore***, and Hidehiko Masuhara. Towards improving interface modularity in legacy Java software through automated refactoring. In *Companion Proceedings of the International Conference on Modularity*, MODULARITY Companion 2016, pages 104–106, New York, NY, USA, March 2016. ACM.

Neelam Soundarajan and **Raffi Khatchadourian**. Specifying reusable aspects. In *Asian Workshop on Aspect-Oriented and Modular Software Development*, AOAsia '09, November 2009.

Phil Greenwood, Awais Rashid, and **Raffi Khatchadourian**. Contributing factors to pointcut fragility. In *Workshop on Assessment of Contemporary Modularization Techniques*, ACoM '09, pages 19–24. ACM, October 2009.

Raffi Khatchadourian, Phil Greenwood, and Awais Rashid. On the assessment of pointcut design in evolving aspect-oriented software. In *Workshop on Assessment of Contemporary Modularization Techniques*, ACoM '08, pages 9–10. Lancaster University, ACM, October 2008.

Raffi Khatchadourian, Johan Dovland, and Neelam Soundarajan. Enforcing behavioral constraints in evolving aspect-oriented programs. In *Workshop on Foundations of Aspect-oriented Languages*, FOAL '08, pages 19–28, New York, NY, USA, April 2008. ACM.

Raffi Khatchadourian and Neelam Soundarajan. Rely-guarantee approach to reasoning about aspect-oriented programs. In *Workshop on Software Engineering Properties of Languages and Aspect Technologies*, SPLAT '07, pages 5–es, New York, NY, USA, March 2007. ACM.

Tool Demonstrations (peer-reviewed)

Raffi Khatchadourian and Hidehiko Masuhara. Defaultification refactoring: A tool for automatically converting Java methods to default. In *International Conference on Automated Software Engineering*, ASE '17, pages 984–989, Piscataway, NJ, USA, October 2017. ACM/IEEE, IEEE Press. (20/32; 63% acceptance rate).

Raffi Khatchadourian, Awais Rashid, Hidehiko Masuhara, and Takuya Watanabe. Fraglight: Shedding light on broken pointcuts in evolving aspect-oriented software. In *Companion Proceedings of the 2015 ACM SIGPLAN International Conference on Systems, Programming, Languages and Applications: Software for Humanity*, SPLASH Companion 2015, pages 17–18, New York, NY, USA, October 2015. ACM.

Raffi Khatchadourian and Benjamin Muskalla. Enumeration refactoring: A tool for automatically converting Java constants to enumerated types. In *International Conference on Automated Software Engineering*, ASE '10, pages 181–182, New York, NY, USA, September 2010. IEEE/ACM. (18/45; 40% acceptance rate).

Raffi Khatchadourian and Awais Rashid. Rejuvenate pointcut: A tool for pointcut expression recovery in evolving aspect-oriented software. In *International Working Conference on Source Code Analysis and Manipulation*, SCAM '08, pages 261–262. IEEE, September 2008.

Posters (peer-reviewed)

Yiming Tang, **Raffi Khatchadourian**, Mehdi Bagherzadeh, and Syed Ahmed. Towards safe refactoring for intelligent parallelization of Java 8 streams. In *International Conference on Software Engineering: Companion Proceedings*, ICSE '18, pages 206–207, New York, NY, USA, May 2018. ACM/IEEE, ACM.

Md. Arefin and **Raffi Khatchadourian**. Porting the NetBeans Java 8 enhanced for loop lambda expression refactoring to Eclipse. In *Companion Proceedings of the 2015 ACM SIGPLAN International Conference on Systems, Programming, Languages and Applications: Software for Humanity*, SPLASH Companion 2015, pages 58–59, New York, NY, USA, October 2015. ACM.

Technical Reports

Raffi Khatchadourian, **Yiming Tang**, Mehdi Bagherzadeh, and Syed Ahmed. Safe automated refactoring for intelligent parallelization of Java 8 streams. Technical Report 544, City University of New York (CUNY) Hunter College, 695 Park Ave, New York, NY 10065 United States, July 2019.

Raffi Khatchadourian, Phil Greenwood, Awais Rashid, and Guoqing Xu. Pointcut rejuvenation: Recovering pointcut expressions in evolving aspect-oriented software. Technical Report COMP-001-2008, Lancaster University, Lancaster, UK, August 2008. Revised March 2009, May 2009.

Raffi Khatchadourian, Jason Sawin, and Atanas Rountev. Automated refactoring of legacy Java software to enumerated types. Technical Report OSU-CISRC-4/07-TR26, Ohio State University, April 2007.

Project Deliverables

Jean-Claude Royer, Joost Noppen, Nicolas Anquetil, Andreas Rummler, Ralf Mitschke, André Sousa, Uira Kulesza, **Raffi Khatchadourian**, Phil Greenwood, Awais Rashid, and Ismênia Galvao. Software support for the traceability framework, including extension of current configuration management and product line evolution model. Technical Report AMPLE D4.2, Aspect-Oriented, Model-Driven Product Line Engineering, October 2008.

Raffi Khatchadourian, Ruzanna Chitchyan, Phil Greenwood, Awais Rashid, Juan A. Valenzuela, Luis M. Fernández, Mónica Pinto, Lidia Fuentes, Andrew Jackson, and Siobhán Clarke. Overall aspect-oriented analysis and design approach. Technical Report AOSD-Europe Deliverable D132, AOSD-Europe-ULANC-49, European Network of Excellence on Aspect-Oriented Software Development, September 2008.

Mónica Pinto, Lidia Fuentes, Ruzanna Chitchyan, Awais Rashid, Andrew Jackson, Siobhán Clarke, Boris Shishkov, Bedir Tekinerdogan, Mehmet Aksit, Phil Greenwood, and **Raffi Khatchadourian**. Traceability framework: From requirements through architecture and design. Technical Report AOSD-Europe Deliverable D126, AOSD-Europe-ULANC-43, European Network of Excellence on Aspect-Oriented Software Development, July 2008.

Safoora Omer Rashid, Ruzanna Chitchyan, Awais Rashid, **Raffi Khatchadourian**, and Phil Greenwood. Approach for change impact analysis of aspectual requirements. Technical Report AOSD-Europe Deliverable D110, AOSD-Europe-ULANC-40, European Network of Excellence on Aspect-Oriented Software Development, January 2008.

Theses

Raffi Khatchadourian. *Techniques for Automated Software Evolution*. PhD thesis, Ohio State University, 247 University Hall, 230 North Oval Mall, Columbus, OH, USA 43210, April 2011.

Patents

Gianpaolo Fasoli, Augustin Farrugia, Apoorva Govind, and **Raffi Khatchadourian**. Controlling use of shared content items based on client device, January 2016. US Patent 20,160,019,375; US Patent App. 14/634,405.

Other Publications

Raffi Khatchadourian. Creating faculty portfolio sites on the Commons. `http://news.commons.gc.cuny.edu/2018/01/04/creating-faculty-portfolio-sites-on-the-commons`, January 2018. Invited blog post.

Awards

Research

International Conference on Fundamental Approaches to Software Engineering — **Dublin, Ireland**
EAPLS Best Paper Award — *2020*
"An Empirical Study on the Use and Misuse of Java 8 Streams."

Japan Society for the Promotion of Science (JSPS) — **Japan**
BRIDGE Fellowship — *2020*
∼$3,627 US (¥395,000). Award #BR200404. ∼45 given each year worldwide. *See bit.ly/jspsbridge2020*

IEEE International Working Conference on Source Code Analysis & Manipulation — **Madrid, Spain**
Distinguished Paper Award — *2018*
"A Tool for Optimizing Java 8 Stream Software via Automated Refactoring."

Tokyo Institute of Technology — **Tokyo, Japan**
Invitational Program for the Promotion of International Joint Research Award — *2015*
$3,052.86 US (¥328,480).

Japan Society for the Promotion of Science (JSPS) — **Japan**
Summer Program Fellowship — *2010*
$6,436.53 US (¥692,500). Award #SP10024. *See bit.ly/2s6pWiG*

Computing, Lancaster University — **Lancaster, UK**
Visiting Studentship in Aspect-Oriented Software Analysis and Design — *2007*
$9,983.52 US (£8,000).

Teaching

Computer Science & Engineering, Ohio State University — **Columbus, OH**
Graduate Teaching (Eleanor Quinlan Memorial) Award — *2010*
$500 US.

Studential

Monmouth University — **West Long Branch, NJ**
Outstanding Undergraduate Computer Science Student Award — *2004*

Travel

External

ACM SIGSOFT
CAPS Program Travel Grant — *2009–2019 (3)*
$2,800 US.

National Science Foundation (NSF)
International Conference on Software Engineering (ICSE) Travel Award — *2016–2018 (2)*
$3,276 US.

ACM SIGPLAN
Professional Activities Committee (PAC) Travel Grant — *2007–2015 (5)*
$2,021 US.

European Network of Excellence on Aspect-Oriented Software Development
Student Grant *2008*
$333.97 (€300).

Internal

CUNY Academy for the Humanities and Sciences **New York, NY**
Stewart Travel Award for Assistant Professors *2019*
$300 US. *See bit.ly/stewart19*

CUNY Research Foundation (RF) **New York, NY**
Faculty Research Travel Program *2017*
$750 US.

CUNY Office of the Vice Chancellor for Research **New York, NY**
Travel Funds Program *2016*
$895 US.

CUNY New York City College of Technology **Brooklyn, NY**
Professional Development Advisory Council (PDAC) Travel Award *2015 (2)*
$2,150 US.

Lancaster University **Lancaster, UK**
Faculty of Science & Technology Travel Grant *2008–2009 (2)*
$374.37 (£300).

Grants

External

Amazon Web Services (AWS)
Cloud Credits for Research Program, PI *2020*
$1,500 US. *Mining for Evolutionary Changes of Non-functional Features in Machine Learning Systems.*

Amazon Web Services (AWS)
Cloud Credits for Research Program, PI *2018*
$800 US. *Analyses and Automated Refactorings for Imperative Programs that Use Functional Features.*

Japan Society for the Promotion of Science (JSPS)
US Alumni Association (AA) Seminar Program, PI *2018*
$3,839.50 US. *New York Seminar on Programming Languages and Software Engineering.*

Women in Technology and Entrepreneurship in New York (WiTNY)
Grant, Co-PI *2017–(2022)*
$125,000 US. *Project Khaleesi–Mentoring Tomorrow's Cybersecurity Queen of Dragons.*

National Science Foundation (NSF)
Grant, PI *2010*
$5,617 US. OISE-1015773. *EAPSI: Automated Refactoring of Legacy Java Frameworks to Annotation Types.*

Internal

PSC-CUNY
Research Grant, PI *2020*
$11,999.99 US. ENHC-51-88. *Safe and Efficient Parallelism via Collection API Ordering Inference.*

PSC-CUNY
Research Grant, PI *2018*
$12,000 US. ENHC-49-126. *Analyses and Automated Refactorings for Imperative Programs that Use Functional Features.*

PSC-CUNY
Research Grant, PI *2017*
$3,499.50 US. TRADA-48-502. *Analyses and Transformations for Concurrent Imperative Programs using MapReduce.*

PSC-CUNY
Research Grant, PI *2016*

$3,499.02 US. TRADA-47-255. *Automatic Migration of Legacy Java Method Implementations to Interfaces*.

CUNY Diversity Projects Development Fund (DPDF)
Grant, PI *2015*
$5,000 US. *Design for a Cloud-based Java IDE for Teaching Minorities*.

CUNY New York City College of Technology
OER Initiative Fellowship *2015*
23 hours at the 60% non-teaching adjunct faculty rate.

Open Source Software

Rejuvenate Log Levels: Java source code transformation plug-in for Eclipse. Automatically adjusts logging statement levels based on degree of interest. *See git.io/fjlTY*.

Optimize Java 8 Streams: Java source code refactoring plug-in for Eclipse. Optimizes Java 8 stream clients for increased efficiency and parallelism through refactoring. *See git.io/vpTLk*.

Migrate Skeletal Implementation to Interface: Java source code refactoring plug-in for the Eclipse open source Integrated Development Environment. Migrates legacy Java skeletal implementations to Java 8 enhanced interfaces. *See git.io/vwpaK*.

fraglight: AspectJ source code inferencing plug-in for the Eclipse open source Integrated Development Environment, providing tool support for early detection of broken pointcuts in evolving Aspect-Oriented software. Integrated with the Mylyn task focusing plug-in for Eclipse. *See git.io/JextF*.

Rejuvenate Pointcut: AspectJ source code inferencing plug-in for the Eclipse open source Integrated Development Environment, providing tool support for pointcut expression recovery in evolving Aspect-Oriented software. *See code.google.com/p/rejuvenate-pc*.

Convert Constants to Enum: Java source code refactoring plug-in for the Eclipse open source Integrated Development Environment. Planned for release in the standard distribution of Eclipse. *See code.google.com/p/constants-to-enum-eclipse-plugin*.

Students Advised

Current Research Students

Yiming Tang, Ph.D. 2022 — *CUNY Graduate Center Full Science Fellow*
Tatiana Castro Velez, Ph.D. 2025 — *CUNY GC/HC CS Fellow*

Past Research Students

Allan Spektor, M.A. 2020 — *Now Software Engineer at Kooick Inc.*
Annie Wang, Hunter High School 2020 — *NYU GSTEM participant, now student at Harvard*
Krishna Desai, Nutley High School 2020 — *NYU GSTEM participant*
Oren Friedman, M.A. 2019 — *Google Summer of Code participant, now Software Engineer at Xandr*
Walee Ahmed, B.A. 2019
David Morant, B.A. 2017 — *UG Research Initiative Fellow, now Software Engineer at NYT*
Walter Rada, B.Tech. 2015 — *Now Network Engineer at TD Ameritrade*
Olivia Moore, B.Tech. 2016 — *NSF LSAMP scholar, now Engineer at New York Foundling*
Md. Arefin, B.Tech. 2016 — *GSoC, Emerging Scholar, Valedictorian, now Software Engineer at Chase*
Egor Kozitski, B.Tech. 2015 — *Emerging Scholar, now Software Engineer at AD/FIN*

Presentations

Invited Talks

Computer Science, University of Bristol **Bristol, UK**
Automated Evolution of Feature Logging Statement Levels Using Git Histories . . . *2020*
July 2020. *See bit.ly/2Jzb47W*.

Computer Science, New Jersey Institute of Technology **Newark, NJ**
An Empirical Study on the Use and Misuse of Java 8 Streams *2019*
October 2019. *See bit.ly/njit2020*.

Computer Science, SUNY Binghamton **Vestal, NY**
An Empirical Study on the Use and Misuse of Java 8 Streams *2019*
October 2019. *See bit.ly/suny2019*.

Computer Science, Columbia University **New York, NY**
Safe Automated Refactoring for Intelligent Parallelization of Java 8 Streams *2019*
April 2019. *See bit.ly/columbiastreams*.

Computer Science, New Mexico State University **Las Cruces, NM**
Safe Automated Refactoring for Intelligent Parallelization of Java 8 Streams *2019*
March 2019.

Electrical Engineering & Computer Science, Cleveland State University **Cleveland, OH**
Safe Automated Refactoring for Intelligent Parallelization of Java 8 Streams *2019*
February 2019.

Computer Science, University of Alabama in Huntsville **Huntsville, AL**
Safe Automated Refactoring for Intelligent Parallelization of Java 8 Streams *2019*
February 2019.

Computer Science, The College of New Jersey **Ewing, NJ**
Safe Automated Refactoring for Intelligent Parallelization of Java 8 Streams *2019*
February 2019.

Computer Science & Statistics, University of Rhode Island **Kingston, RI**
Safe Automated Refactoring for Intelligent Parallelization of Java 8 Streams *2019*
February 2019.

Electrical Engineering & Computer Science, Ohio University **Athens, OH**
Safe Automated Refactoring for Intelligent Parallelization of Java 8 Streams *2019*
February 2019.

Computer Science & Software Engineering, Miami University **Oxford, OH**
Safe Automated Refactoring for Intelligent Parallelization of Java 8 Streams *2019*
January 2019.

Mathematics & Computer Science, Denison University **Granville, OH**
Safe Automated Refactoring for Intelligent Parallelization of Java 8 Streams *2018*
November 2018.

Computer Science, George Mason University **Fairfax, VA**
Automated Refactoring of Legacy Java Software to Default Methods *2017*
May 2017. *See bit.ly/gmurefact*.

Information Science & Technology, University of Tokyo **Tokyo, Japan**
Open Problems in Automatically Refactoring Legacy Java Software to New Features in Java 8 *2015*
June 2015. Core Software Group, Creative Informatics. *See bit.ly/csg2015*.

Information Science & Engineering, Tokyo Institute of Technology **Tokyo, Japan**
Open Problems in Automatically Refactoring Legacy Java Software to New Features in Java 8 *2015*
June 2015. Programming Research Group, Mathematical & Computing Sciences. *See goo.gl/IWqJWw*.

SUNY Old Westbury **Old Westbury, NY**
Techniques for Automated Software Evolution *2014*
March 2014.

Quinnipiac University **Hamden, CT**
Objective-C for Java Developers *2014*
March 2014. *See bit.ly/obj-c_java*.

Milwaukee School of Engineering **Milwaukee, WI**
Objective-C for Java Developers *2014*
February 2014.

Johns Hopkins University Applied Physics Laboratory (JHU APL) **Columbia, Maryland**
Techniques for Automated Evolution of Aspect-Oriented Software *2010*
November 2010.

Information Science & Engineering, Tokyo Institute of Technology **Tokyo, Japan**
Future Endeavors in Automated Refactoring of Legacy Java Software to Enumerated Types *2010*
August 2010. Chiba Shigeru Programming Languages & Operating Systems Research Group, Mathematical & Computing Sciences. *See slidesha.re/enum-future*.

Kyushu University **Fukuoka City, Japan**
Fraglight: Shedding Light on Broken Pointcuts in Aspect-Oriented Software *2010*
July 2010. Principles of Software Languages (POSL) Research Group.

Graphics & Computer Science, University of Tokyo **Tokyo, Japan**
Pointcut Rejuvenation: Recovering Pointcut Expressions in Evolving Aspect-Oriented Software *2010*
July 2010. Computing System Research Group. *See slidesha.re/rejuvpc*.

Computing, Lancaster University **Lancaster, UK**
Rely, Guarantee, Enrich: An Approach to Modular Reasoning About Aspect-Oriented Programs *2008*
March 2008. Computing's Advanced Knowledge Extension Seminar (CAKES). Presentation.

Conference Activities & Participation

International Conference on Fundamental Approaches to Software Engineering **Dublin, Ireland**
An Empirical Study on the Use and Misuse of Java 8 Streams *2020*
July 2020. FASE '20. Presentation.

IEEE International Working Conference on Source Code Analysis & Manipulation **Madrid, Spain**
A Tool for Optimizing Java 8 Stream Software via Automated Refactoring *2018*
September 2018. SCAM '18. Presentation. *See bit.ly/scam18streams*.

International Conference on Software Engineering **Gothenburg, Sweden**
Towards Safe Refactoring for Intelligent Parallelization of Java 8 Streams *2018*
May 2018. ICSE '18. Poster. *See bit.ly/icse18streams*.

International Conference on the Art, Science, and Engineering of Programming **Nice, France**
Proactive Empirical Assessment of New Language Feature Adoption via Automated Refactoring *2018*
April 2018. Programming '18. Presentation. *See bit.ly/programming2018*.

IEEE/ACM International Conference on Automated Software Engineering **Urbana-Champaign, IL**
Defaultification Refactoring: A Tool for Automatically Converting Java Methods . . . *2017*
November 2017. ASE '17. Demonstration, talk, and poster. *See bit.ly/ase2017*.

International Conference on Software Engineering **Buenos Aires, Argentina**
Automated Refactoring of Legacy Java Software to Default Methods *2017*
May 2017. ICSE '17. Presentation and poster. *See bit.ly/icse17default*.

IEEE/ACM International Conference on Automated Software Engineering **Lincoln, NE**
Detecting Broken Pointcuts using Structural Commonality and Degree of Interest *2015*
November 2015. ASE '15. Presentation. *See bit.ly/ase15frag*.

ACM SIGPLAN Conference on Systems, Programming, and Applications: Software . . . **Pittsburgh, PA**
Fraglight: Shedding Light on Broken Pointcuts in Evolving Aspect-Oriented Software *2015*
October 2015. SPLASH '15. Demonstration. *See bit.ly/splash15demo*.

IEEE/ACM International Conference on Automated Software Engineering **Antwerp, Belgium**
Enumeration Refactoring: A Tool for Automatically Converting Java Constants . . . *2010*
September 2010. ASE '10. Tool demonstration, presentation, and poster. *See slidesha.re/enum-tool*.

IEEE/ACM International Conference on Automated Software Engineering **Auckland, New Zealand**
Pointcut Rejuvenation: Recovering Pointcut Expressions in Evolving Aspect[s] . . . *2009*
November 2009. ASE '09. Poster.

International Conference on Aspect-Oriented Software Development **Charlottesville, VA**
Rejuvenate Pointcut: A Tool for Pointcut Expression Recovery in Evolving Aspect[s] . . . *2009*
March 2009. AOSD '09. Invited tool demonstration. *See slidesha.re/aosd09*.

International Conference on Aspect-Oriented Software Development **Charlottesville,VA**
Enforcing Behavioral Constraints in Evolving Aspect-Oriented Programs *2009*
March 2009. AOSD '09. Poster.

IEEE International Working Conference on Source Code Analysis and Manipulation **Beijing, China**
Rejuvenate Pointcut: A Tool for Pointcut Expression Recovery in Evolving Aspect[s] . . . *2008*
September 2008. SCAM '08. Tool demonstration. *See slidesha.re/rejuvpc-tool*.

International Conference on Aspect-Oriented Software Development **Brussels, Belgium**
Pointcut Rejuvenation: Recovering Pointcut Expressions in Evolving Aspect[s] . . . *2008*
April 2008. AOSD '08. Poster.

IEEE International Conference on Software Maintenance **Paris, France**
Automated Refactoring of Legacy Java Software to Enumerated Types *2007*
October 2007. ICSM '07. Presentation. *See slidesha.re/enum-refact*.

Workshop Activities & Participation

Language Modularity À La Mode at MODULARITY '16 **Málaga, Spain**
Towards Improving Interface Modularity in Legacy Java Software through Automated Refactoring *2016*
March 2016. LaMOD '16. Presentation. *See bit.ly/lamod16*.

Asian Workshop on Aspect-Oriented and Modular Software at ASE '09 **Auckland, New Zealand**
Specifying Reusable Aspects *2009*
November 2009. AOAsia '09. Presentation. *See slidesha.re/reuse-aop*.

Assessment of Contemporary Modularization Techniques at OOPSLA '08 **Nashville, Tennessee**
On the Assessment of Pointcut Design in Evolving Aspect-Oriented Software *2008*
October 2008. ACoM '08. Presentation. *See slidesha.re/pc-des*.

Foundations of Aspect-Oriented Languages at AOSD '08 **Brussels, Belgium**
Enforcing Behavioral Constraints in Evolving Aspect-Oriented Programs *2008*
April 2008. FOAL '08. Presentation. *See slidesha.re/aop-beh*.

Software Engineering Properties of Languages and Aspect Technologies at AOSD '07 **Vancouver, BC**
Rely-Guarantee Approach to Reasoning about Aspect-Oriented Programs *2007*
March 2007. SPLAT '07. Presentation. *See slidesha.re/rg-aop*.

Seminar Activities & Participation

IBM Programming Languages Day **Yorktown Heights, NY**
Proactive Empirical Assessment of New Language Feature Adoption via Automated . . . *2017*
December 2017. PL Day '17. IBM T.J. Watson Research Center. Presentation. *See bit.ly/ibmpl17*.

New Jersey Programming Languages and Systems Seminar **Princeton, NJ**
Automated Refactoring of Legacy Java Software to Default Methods *2017*
November 2017. NJPLS '17. Princeton University. Presentation. *See bit.ly/njpls17*.

NYC Media Lab 2015 Annual Summit **New York, NY**
Fraglight: Shedding Light on Broken Pointcuts in Evolving Aspect-Oriented Software *2015*
September 2015. New York City Media Laboratory, NYU Skirball Center for the Performing Arts. Demonstration. *See bit.ly/nycmedia15*.

Razorfish Global Technology Summit **New York, NY**
Fraglight: Shedding Light on Broken Pointcuts in Evolving Aspect-Oriented Software *2015*
September 2015. Demonstration. *See bit.ly/razorfish15*.

JSPS Summer Program Research Proposal Session **Hayama, Japan**
Fraglight: Shedding Light on Broken Pointcuts in Evolving Aspect-Oriented Software *2010*

June 2010. The Graduate University for Advanced Studies (Sokendai). Poster.

European Summer School on Aspect-Oriented Software Development **Genoa, Italy**
Modular Reasoning about Aspect-Oriented Programs: A Rely-Guarantee Approach *2007*
July 2007. Informatics and Information Science (DISI), University of Genoa. Group discussion and poster.

Ohio Graduate Student Symposium on Computer and Information Science & Eng. **Cincinnati, OH**
Modular Reasoning about Aspect-Oriented Programs: A Rely-Guarantee Approach *2007*
April 2007. OGSS-CISE '07. University of Cincinnati. Presentation. *See slidesha.re/ogss-cise*.

Campus & Departmental Talks

Computer Science, CUNY Graduate Center **New York, NY**
An Empirical Study on the Use and Misuse of Java 8 Streams *2020*
April 2020. Presentation. *See bit.ly/cunygc20*.

Computer Science, CUNY Graduate Center **New York, NY**
Safe Automated Refactoring for Intelligent Parallelization of Java 8 Streams *2019*
September 2019. Presentation. *See bit.ly/cunygc*.

CUNY New York City College of Technology **Brooklyn, NY**
Towards Improving Interface Modularity in Legacy Java Software Through Automated Refactoring *2016*
March 2016. Presentation. *See bit.ly/nycct-interface*.

Computer Science, CUNY Hunter College **New York, NY**
Detecting Broken Pointcuts using Structural Commonality and Degree of Interest *2015*
December 2015. Presentation. *See bit.ly/ase15frag*.

CUNY New York City College of Technology **Brooklyn, NY**
Automatic Modernization of Legacy Java Software *2015*
November 2015. Annual Poster Session of Faculty and Student Research and Faculty Publications Exhibit, Faculty Recognition Day. Poster. *See bit.ly/facday15*.

CUNY College of Staten Island **Staten Island, NY**
Automatic Migration of Legacy Java Method Implementations to Interfaces *2015*
June 2015. National Science Foundation (NSF)/Defense (DoD) Research Experience for Undergraduates (REU): Computational Methods in High Performance Computing with Applications to Computer Science. Presentation. *See www.cs.csi.cuny.edu/REU*.

Computer Systems Technology, CUNY New York City College of Technology **Brooklyn, NY**
Introduction to New Features in Java 8 *2015*
March 2015. Presentation. *See bit.ly/java8-intro*.

CUNY New York City College of Technology **Brooklyn, NY**
Fraglight: Shedding Light on Broken Pointcuts in Aspect-Oriented Software *2014*
November 2014. Annual Poster Session of Faculty and Student Research and Faculty Publications Exhibit, Faculty Recognition Day. Poster. *See bit.ly/facday*.

Computer Systems Technology, CUNY New York City College of Technology **Brooklyn, NY**
Fraglight: Shedding Light on Broken Pointcuts in Evolving Aspect-Oriented Software *2014*
November 2014. Presentation. *See bit.ly/fraglight*.

Apple Inc. **Cupertino, CA**
Unit Testing with Xcode *2012*
September 2012. Presentation.

Ohio State University **Columbus, OH**
Techniques for Automated Software Evolution *2011*
April 2011. PhD thesis defense.

Bell Laboratories, Alcatel-Lucent **Murray Hill, NJ**
Overview of a Session Data Type (SDT) Framework Research Prototype *2007*
August 2007. Summer intern presentation.

Teaching

Open Educational Resources (OERs)

Computer Systems Technology, CUNY New York City College of Technology — **Brooklyn, NY**
Creator, CST 1201: Programming Fundamentals OER — *2016*
See wp.me/P7F7J0-4

Instructional Experience

Graduate

Computer Science, CUNY Hunter College — **New York, NY**
Instructor, CSCI 79526: Introduction to Reactive Programming — *2020*
Fall 2020. Combined with CSCI 49380.

Computer Science, CUNY Hunter College — **New York, NY**
Instructor, CSCI 77100: Contemporary Application Development — *2018–2020 (2)*
Fall 2018, Spring 2020. Combined with CSCI 40500.

Computer Science, CUNY Graduate Center — **New York, NY**
Instructor, CSc 71010: Programming Languages — *2020*
Spring 2020.

Computer Science, CUNY Hunter College — **New York, NY**
Instructor, CSCI 79521: Advanced Programming Languages — *2019*
Spring 2019. Combined with CSCI 46000.

Computer Science, CUNY Graduate Center — **New York, NY**
Instructor, CSc 81020: Software Analysis & Transformation — *2018*
Spring 2018.

Undergraduate

Computer Science, CUNY Hunter College — **New York, NY**
Instructor, CSCI 49380: Introduction to Reactive Programming — *2020*
Fall 2020. Combined with CSCI 79526.

Computer Science, CUNY Hunter College — **New York, NY**
Instructor, CSCI 40500: Software Engineering — *2017–2020 (3)*
Spring 2017, Fall 2018, Spring 2020. Combined with CSCI 77100.

Computer Science, CUNY Hunter College — **New York, NY**
Instructor, CSCI 46000: Advanced Programming Languages — *2019*
Spring 2019. Combined with CSCI 79521.

Computer Science, CUNY Hunter College — **New York, NY**
Instructor, CSCI 49900: Advanced Applications: A Capstone for Majors — *2016–2018 (2)*
Fall 2016, Fall 2018.

Computer Science, CUNY Hunter College — **New York, NY**
Instructor, CSCI 13500: Software Analysis and Design I — *2017 (2)*
Spring 2017, Fall 2017.

Computer Science, CUNY Hunter College — **New York, NY**
Instructor, CSCI 23300: Programming Projects Seminar for Minors — *2016*
Fall 2016.

Computer Systems Technology, CUNY New York City College of Technology — **Brooklyn, NY**
Instructor, CST 4713: Dynamic Web Development — *2016*
Spring 2016.

Computer Systems Technology, CUNY New York City College of Technology — **Brooklyn, NY**
Instructor, CST 1201: Programming Fundamentals — *2014–2016 (4)*
Fall 2014, Spring 2015, Fall 2015, Spring 2016.

Computer Systems Technology, CUNY New York City College of Technology — **Brooklyn, NY**
Instructor, CST 2301: Multimedia and Mobile Device Programming — *2015 (2)*

Spring 2015, Fall 2015.

Computer Systems Technology, CUNY New York City College of Technology — **Brooklyn, NY**
Instructor, CST 1101: Problem Solving with Computer Programming — *2014*
Fall 2014.

Computer Science & Engineering, Ohio State University — **Columbus, OH**
Instructor, CS&E 230: Introduction to C++ Programming — *2005–2011 (12)*
Au05, Wi06, Sp06, Su06, Wi07, Au07, Wi09, Sp09, Wi10, Sp10, Au10, Wi11.

Computer Science & Engineering, Ohio State University — **Columbus, OH**
Instructor, CS&E 202: Programming for Engineers and Scientists — *2007–2009 (3)*
Sp07, Au08, Au09.

Graduate Studies, Lancaster University — **Lancaster, UK**
Invited Lecturer, Seminar on LaTeX Typography — *2008*
Spring 2008.

Mathematics, Monmouth University — **West Long Branch, NJ**
Mathematics Tutor — *2003–2004*
Mathematics Learning Center.

Professional Service

Program Committees

ESEC/FSE '20: ACM Joint European Software Engineering Conference and Symposium on the Foundations of Software Engineering demonstrations.

ECOOP '20: European Conference on Object-Oriented Programming.

ICSE '20: International Conference on Software Engineering demonstrations.

ASE '19: IEEE/ACM International Conference on Automated Software Engineering Late Breaking Results (LBR).

SPLASH '19: ACM SIGPLAN conference on Systems, Programming, Languages, and Applications: Software for Humanity Onward!

ESEC/FSE '18: ACM Joint European Software Engineering Conference and Symposium on the Foundations of Software Engineering demonstrations.

PLRP '18: IEEE International Workshop on Programming Languages Research & Practice at the IEEE Computer Society International Conference on Computers, Software & Applications (COMPSAC '18).

MASS '16: International Workshop on Modularity Across the System Stack at the International Conference on Software Modularity (MODULARITY '16).

SETA '16: Symposium on Software Engineering Technology and Applications at the IEEE Computer Society International Conference on Computers, Software & Applications (COMPSAC '16).

MODULARITY '16: International Conference on Software Modularity tool demonstrations and poster session.

OGSS-CISE '07: Ohio Graduate Student Symposium on Computer and Information Science & Engineering.

Journal Reviewing

PLOS ONE: Public Library of Science One. 2018, 2020.

IJCA: International Journal of Computers and Applications. 2020.

SCP: Science of Computer Programming. 2019.

TSE: IEEE Transactions on Software Engineering. 2018–2019.

IST: Information and Software Technology. 2018–2019.

Funding Agency Reviewing

NSF: National Science Foundation. 2019–2021 (3).

SNSF: Swiss National Science Foundation. 2019.

Conference Reviewing

ICCD '19: IEEE International Conference on Computer Design.

ASE: IEEE/ACM International Conference on Automated Software Engineering. 2008–2010 (3).

ECOOP: European Conference on Object-Oriented Programming. 2008–2010 (3).

AOSD: International Conference on Aspect-Oriented Software Development. 2009–2010 (2).

ACoM '08: Workshop on Assessment of Contemporary Modularization Techniques at OOPSLA.

ICSE '07: International Conference on Software Engineering.

Textbook Reviewing

Cengage: "Programming with C++ Brief Edition," D.S. Malik, Cengage Learning, Boston, MA. 2007.

Conference & Workshop Organization

NYPLSE '19: New York Seminar on Programming Languages and Software Engineering. Sole organizer.

WAPI '18: International Workshop on API Usage and Evolution at the International Conference on Software Engineering (ICSE '18). Co-organizer.

ESEC/FSE '18: ACM Joint European Software Engineering Conference and Symposium on the Foundations of Software Engineering. Publicity chair.

LaMod '16: International Workshop on Language Modularity at the International Conference on Software Modularity (MODULARITY '16). Co-organizer.

ECOOP '11: European Conference on Object-Oriented Programming. Web chair.

Conference & Workshop Involvement

ECOOP '20: European Conference on Object-Oriented Programming. Session chair.

OOPSLA '20: International Conference on Object-Oriented Programming, Systems, Languages, and Applications. Session chair.

ICSE '20: International Conference on Software Engineering. Session chair & backup session chair.

ESEC/FSE '18: ACM Student Research Competition (SRC). Judge.

MASS '16: Workshop on Modularity Across the System Stack at MODULARITY '16. Panelist & session chair.

SPLASH '10: ACM SIGPLAN conference on Systems, Programming, Languages, and Applications. Volunteer.

AOSD: International Conference on Aspect-Oriented Software Development. Volunteer. 2007–2009 (2).

Professional Organizations

AOSA: Aspect-Oriented Software Development Association. Webmaster of aosd.net. 2011–2013.

Departmental/University Service

Departmental

Delegate: Faculty Delegate Assembly (FDA), Computer Science, CUNY Hunter College. 2019–.

Organizer: Cybersecurity Summer Camp for female non-CS majors, CS, CUNY Hunter College. 2018.

Member: Lecturer search committee, Computer Science, CUNY Hunter College. 2018

Member: NCWIT-sponsored Women in Computer Science at Hunter College (WICS-HC) committee. 2016–2017.

Chair: Colloquium committee, CST, CUNY New York City College of Technology. 2014–2016.

Member: Annual Awards Selection Committee, Computer Science & Engineering, Ohio State University. 2011.

Collegiate

Member: Food Services & Facilities Committee, CUNY Hunter College. 2020–

Judge: New York City Science & Engineering Fair (NYCSEF). 2015–2016 (4).

Mentor: Louis Stokes Alliances for Minority Participation (LSAMP) Undergraduate Research program. 2015–2016.

Panelist: "Using Open Educational Resources (OER) in the Classroom," CUNY NYCCT. 2015.
Panelist: Advancing Computer Science Careers through Enhanced Networking and Training (ASCENT). 2015.
Mentor: Emerging Scholars Undergraduate Research program. CUNY NYCCT. 2015 (2).

University

Reviewer: Research Foundation (RF) CUNY Office of Award Pre-Proposal Support (APPS). 2019–2020 (2).
Member: CUNY Academic Commons Subcommittee. 2015–2016
Alternate: Committee on Academic Technology (CAT). 2015–2016.

Professional Activities

Visiting Scholar: Security Lancaster, Computing & Communications, Lancaster University, Lancaster, UK. 2015.
Visiting Scholar: Mathematical & Computing Sciences, Tokyo Institute of Technology, Tokyo, Japan. 2015.
Participant: Spring school at AOSD. 2007–2009 (2).
Participant: European Summer School on Aspect-Oriented Software Development, Genoa, Italy. 2007.
President: ACM Student Chapter, Monmouth University. 2004.

Community Involvement, Outreach, & Volunteering

Mentor: NYU GSTEM Summer Program for High School Minorities and Females. 2019.
Mentor: Google Summer of Code (GSoC), Eclipse Foundation. 2015–2018 (2).
Representative: Eclipse Foundation at the Google Summer of Code (GSoC) Mentor Summit. 2015.
Member: Worship Arts Team, Journey Church, New York, NY. 2015–
Volunteer: Learning Disabilities Association, New York, NY. 2014–2015.
Volunteer: Journey Church, San Francisco, CA. 2012–2014.

Professional Affiliations

CoSSMO: Member, CUNY Institute of Computer Simulation, Stochastic Modeling and Optimization.
JSPS US: Regular Member, Japan Society for the Promotion of Science (JSPS) US Alumni Association.
ACM: Member, Association for Computing Machinery.
SIGPLAN: Member, ACM Special Interest Group for Programming Languages.
SIGSOFT: Member, ACM Special Interest Group on Software Engineering.
IEEE-CS: Member, IEEE Computer Society.
ETAPS: Member, European Joint Conferences on Theory and Practice of Software.