

Preetha Chatterjee

ASSISTANT PROFESSOR · DREXEL UNIVERSITY

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Research Interests

Software engineering, machine learning and natural language processing applications to software engineering, software data analytics, mining software repositories, empirical software engineering

Professional Experience

- 2021-Present **Assistant Professor**, *Department of Computer Science*, Drexel University, USA
- 2016-2021 **Research Assistant**, *Department of Computer and Information Sciences*, University of Delaware, USA
- 2014-2016 **Teaching Assistant**, *Department of Computer and Information Sciences*, University of Delaware, USA
- 2013-2014 **QA Engineer**, Integral Development Corporation, India
- 2012-2013 **Software Engineer**, Theorem Private Limited, India
- 2009-2012 **Project Engineer**, Wipro Technologies, India

Education

University of Delaware

United States of America

PH.D. IN COMPUTER SCIENCE

2014 - 2021

Department of Computer & Information Sciences

Dissertation Title: *Mining Information from Developer Chats Towards Building Software Maintenance Tools*

Advisor: Dr. Lori Pollock

University of Delaware

United States of America

M.S. IN COMPUTER SCIENCE

2014 - 2016

Department of Computer & Information Sciences

Advisor: Dr. Lori Pollock

West Bengal University of Technology

India

B.TECH. IN INFORMATION TECHNOLOGY

2004 - 2008

Department of Information Technology

Publications

REFEREED CONFERENCE PUBLICATIONS

- 2021. **Preetha Chatterjee**, Kostadin Damevski, and Lori Pollock, “Automatic Extraction of Opinion-based Q&A from On-line Developer Chats”, in Proceedings of the 43rd International Conference on Software Engineering (ICSE), Technical Track, May 2021 (Acceptance Rate: 22.4%).
- 2020. **Preetha Chatterjee**, Kostadin Damevski, Nicholas A. Kraft, and Lori Pollock, “Software-related Slack Chats with Disentangled Conversations”, in Proceedings of the 17th International Conference on Mining Software Repositories (MSR), Data Showcase Track, May 2020 (Acceptance Rate: 38.8%).

2020. **Preetha Chatterjee**, “Extracting Archival-Quality Information from Software-Related Chats”, in Proceedings of the 42nd International Conference on Software Engineering (ICSE), Doctoral Symposium Track, May 2020 (Invited Talk Acceptance rate: 34.6%).
2019. **Preetha Chatterjee**, Kostadin Damevski, Lori Pollock, Vinay Augustine, and Nicholas A. Kraft, “Exploratory Study of Slack Q&A Chats as a Mining Source for Software Engineering Tools”, in Proceedings of the 16th International Conference on Mining Software Repositories (MSR), Research Track, May 2019 (Acceptance rate: 25.4%).
2017. **Preetha Chatterjee**, Benjamin Gause, Hunter Hedinger, and Lori Pollock, “Extracting Code Segments and Their Descriptions from Research Articles,” in Proceedings of the 14th International Conference on Mining Software Repositories (MSR), Research Track, May 2017 (Acceptance rate: 30.6%).
2017. **Preetha Chatterjee**, Manziba Akanda Nishi, Kostadin Damevski, Vinay Augustine, Lori Pollock, and Nicholas A. Kraft, “What Information about Code Snippets Is Available in Different Software-Related Documents? An Exploratory Study”, in Proceedings of the 24th IEEE International Conference on Software Analysis, Evolution, and Reengineering (SANER), Early Research Achievements Track, Feb 2017 (Acceptance rate: 32.5%).

REFEREED JOURNAL PUBLICATIONS

2021. **Preetha Chatterjee**, Kostadin Damevski, Nicholas A. Kraft, and Lori Pollock, “Automatically Identifying the Quality of Developer Chats for Post Hoc Use”, Transactions on Software Engineering and Methodology (TOSEM), accepted 2021 (Impact factor: 2.071).
2020. **Preetha Chatterjee**, Minji Kong, and Lori Pollock, “Finding Help with Programming Errors: An Exploratory Study of Novice Software Engineers’ Focus in Stack Overflow Posts”, Journal of Systems and Software (JSS), Research Paper, Volume 159, Jan 2020 (Impact factor: 2.559).

OTHER PUBLICATIONS

2021. **Preetha, Chatterjee**, “Mining Information from Developer Chats Towards Building Software Maintenance Tools,” University of Delaware, Ph.D. Thesis, 2021.
2015. **Preetha, Chatterjee**, “Exploring the Generality of a Java-based Loop Action Model for the Quorum Programming Language”, University of Delaware, Ph.D. Prelims, 2015.

Honors and Awards

2021. **Frank A. Pehrson Graduate Student Award for Outstanding Computer Science Research**, *University of Delaware*, in recognition of outstanding performance and future potential in the field.
2020. **GHC Sponsorship**, *University of Delaware*, to attend virtual Grace Hopper Celebration of Women in Computing.
2019. **NSF Student Travel Support**, *U.S. National Science Foundation*, to financially support selected researchers in attending the 41st International Conference on Software Engineering (ICSE).
2017. **ACM-SIGSOFT CAPS Travel Award**, *ACM Special Interest Group on Software Engineering*, to financially support selected researchers in attending the 14th International Conference on Mining Software Repositories (MSR).
2017. **Professional Development Award**, *University of Delaware*, to help selected graduate students participate in significant professional conferences pertaining to their field of study
2017. **WIE Conference Travel Scholarship**, *Women in Engineering Association at University of Delaware*, to help selected graduate students participate in significant professional conferences.
2017. **CRA-W Travel Scholarship**, *Computing Research Association*, to attend Grad Cohort Workshop.
2016. **Lauri Pfeffer Shinn Memorial Award**, *University of Delaware*, in recognition of academic success and contribution to the Department of Computer and Information Sciences.

2015. **GHC Travel Scholarship**, *University of Delaware*, to attend Grace Hopper Celebration of Women in Computing as a mentor to the undergraduate students.

2015. **CRA-W Travel Scholarship**, *Computing Research Association*, to attend Grad Cohort Workshop.

Presentations

INVITED TALKS

2021. *Mining Software Developer Chats Towards Improving Software Maintenance Tools*, Keynote at Drexel Society of Artificial Intelligence, Philadelphia, USA.

2017. *Mining Code Examples with Descriptive Text from Software Artifacts*, Special Interest Group in Software Systems at University of Delaware, Newark, USA.

RESEARCH PRESENTATIONS

2021. *Mining Information from Developer Chats Towards Building Software Maintenance Tools*, University of Delaware, PhD Thesis Dissertation, Newark, USA.

2021. *Automatic Extraction of Opinion-based Q&A from Online Developer Chats*, 43rd International Conference on Software Engineering (ICSE), Paper Presentation Talk, via Zoom.

2021. *Finding Help with Programming Errors: An Exploratory Study of Novice Software Engineers' Focus in Stack Overflow Posts*, Journal of Systems and Software (JSS), Featured Paper Video, prerecorded.

2020. *Extracting Archival-Quality Information from Software-Related Chats*, 42nd International Conference on Software Engineering (ICSE), Paper Presentation Talk, via Zoom.

2020. *Software-related Slack Chats with Disentangled Conversations*, 17th International Conference on Mining Software Repositories (MSR), Paper Presentation, via Zoom.

2019. *Exploratory Study of Slack Q&A Chats as a Mining Source for Software Engineering Tools*, 16th International Conference on Mining Software Repositories (MSR), Paper Presentation Talk, Montreal, Canada.

2019. *Extracting Archival-Quality Information from Software-Related Chats*, University of Delaware, PhD Proposal Presentation Talk, Newark, USA.

2018. *Finding My Solution in the Haystack of a Post: An Exploratory Study of Stack Overflow*, CIS Department 55 Years Anniversary Showcase at University of Delaware, Poster Presentation, Newark, USA.

2017. *Extracting Code Segments and Their Descriptions from Research Articles*, 14th International Conference on Mining Software Repositories (MSR), Paper Presentation Talk, Buenos Aires, Argentina.

2017. *What Information about Code Snippets Is Available in Different Software-Related Documents? An Exploratory Study*, CRA-W Grad Cohort Workshop, Poster Presentation, Washington D.C., USA.

2015. *Exploring the Generality of a Java-based Loop Action Model for the Quorum Programming Language*, University of Delaware, PhD Prelims Presentation Talk, Newark, USA.

Teaching Experience

DEPARTMENT OF COMPUTER SCIENCE, DREXEL UNIVERSITY

Fall 2021 **SE 181: Introduction to Software Engineering and Development**, Instructor

DEPARTMENT OF COMPUTER AND INFORMATION SCIENCES, UNIVERSITY OF DELAWARE

Summer 2019 **CISC 181: Introduction to Computer Science II**, Instructor

Fall 2018 **CISC 367: Intro to Computer Science Research**, Substitute Instructor

Spring 2018 **CISC 667: Communication Skills for CS Researchers**, Substitute Instructor

Fall 2017 **CISC 879: Text Analysis for Software Engineering**, Substitute Instructor

Spring 2016 **CISC 474: Advanced Web Technologies**, Teaching Assistant

Fall 2015 **CISC 103: Web Applications using Computer Science**, Teaching Assistant

Spring 2015 **CISC 106: General Computer Science for Engineers**, Teaching Assistant

Fall 2014 **CISC 181: Introduction to Computer Science II**, Teaching Assistant

Student Mentoring

UNDERGRADUATE MENTEES

2020 **Kevin Mason**, University of Delaware
Data analysis of software developer chat conversations

2019-2020 **Brian Phillips**, University of Delaware
Data analysis and case study of software developer communications

2019-2020 **Humphrey Owusu**, University of Delaware
Data analysis and case study of software developer communications

2018 **Minji Kong**, University of Delaware
Qualitative analysis of novice developers' focus in Stack Overflow [JSS '2020']

2017 **Qilin Ma**, University of Delaware
Research tool development for mining software-related Q&A forums

2016 **Benjamin Gause**, University of Delaware
Automatic extraction of code descriptions from research articles [MSR '2017']

2016 **Hunter Hedinger**, University of Delaware
Automatic extraction of code descriptions from research articles [MSR '2017']

Professional Service

ACADEMIC SERVICE

Program Committee Member

- International Conference on Mining Software Repositories (MSR 2022 - Technical Track)
- IEEE International Conference on Software Analysis, Evolution, and Reengineering (SANER 2022 - ERA Track)
- International Conference on Software Engineering (ICSE 2022 - SEET Track)
- International Conference on Software Maintenance and Evolution (ICSME 2021 - Tool Demo Track)
- International Conference on Mining Software Repositories (MSR 2021 - Mining Challenge Track)
- IEEE International Conference on Software Analysis, Evolution, and Reengineering (SANER 2021 - ERA Track)

Organizing Committee Member

- Journal Publicity Chair, for Journal of Systems and Software (JSS), 2021 - Present.
- Conference Social Media Chair, for the International Conference on Mining Software Repositories (MSR), 2019 - 2020.

Journal Reviewer

- Empirical Software Engineering (EMSE 2021)
- Transactions on Software Engineering and Methodology (TOSEM 2021)

External Reviewer

- Journal of Software: Practice and Experience (2018)
- The ACM Joint European Software Engineering Conference and Symposium on the Foundations of Software Engineering (FSE 2017)

DIVERSITY AND OUTREACH ACTIVITIES

- 2020 **Participant**, Grace Hopper Celebration of Women in Computing, University of Delaware
- 2016 - 2017 **Founder and Chair**, University of Delaware ACM-W Student Chapter
- 2015 - 2016 **Vice-Chair**, CISTers, Women in Computer Science, University of Delaware
- 2015 **Mentor**, Grace Hopper Celebration of Women in Computing, University of Delaware
- 2015 - 2016 **Technical Administrator**, Indian Graduate Student Association, University of Delaware

Industry Experience

QA Engineer

2013–2014

Domain: Foreign Exchange Trading

*Integral Development Corp.
Bangalore, India*

- Performed Web-based Testing, Functional and Regression Testing of in-house Foreign Exchange Trading tool, and ensured adherence to quality norms throughout the testing process.
- Performed debugging of multiple logs of application workflows for failed scenarios.
- Contributed to building the in-house automation test framework using Groovy.

Software Engineer

2012–2013

Domain: Computational Advertising

*Theorem Private Ltd.
Bangalore, India*

- Single point of contact for the testing team of BRT (Business Response Team), which handled bug/enhancement requests from production. Analyzed software requirement specifications, prepared test plans, test scenarios (using TestLink), created and executed test cases, logged and tracked defects (in JIRA and Bugzilla).
- Performed Functional & Regression Testing for the user interface to validate functionalities of different software components.
- Performed Scoping and estimated the timeline of the project, considering the efforts and number of resources available for a particular production release.

Project Engineer

2009-2012

Domain: Online equity trading

*Wipro Technologies
Bangalore, India*

- Developed the automation suite for regression testing and debugging of Perl/Shell scripts to run batch processes in UNIX platform.
- Created and executed test cases, identified and logged defects/bugs using Clear Quest.
- Performed Sanity testing for new builds & version controlling using Clear-Case.

Domain: Multi Functional Peripheral firmware testing

- Created test plans and test sessions in QC, performed testing on builds - both in development as well as delivery phase using in-house testing tools HP DSS, HP Web Jet Admin.
- Found critical defects through ad-hoc/ exploratory testing, reviewed and fixed bugs in the source code.
- Performed build qualification with Smoke & Sanity testing.

Professional Memberships and Affiliations ---

- Member, Association for Computing Machinery, Special Interest Group on Software Engineering (ACM-SIGSOFT)
- Member, Association for Computing Machinery, Women (ACM-W)
- Member, Association for Computing Machinery (ACM)

References ---

- **Lori Pollock**

Alumni Distinguished Professor
University of Delaware
Newark, DE, USA
Email: pollock@udel.edu

- **Bogdan Vasilescu**

Assistant Professor
Carnegie Mellon University
Pittsburgh, PA, USA
Email: vasilescu@cmu.edu

- **Kostadin Damevski**

Associate Professor
Virginia Commonwealth University
Richmond, VA, USA
Email: kdamevski@vcu.edu

- **Sunita Chandrasekaran**

Assistant Professor
University of Delaware
Newark, DE, USA
Email: schandra@udel.edu