

Mohammad Masudur Rahman, MSc.

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OBJECTIVES Education is the only way to explore one's latent capabilities. My career objectives are—(1) continuing higher studies and research in the field of information technology, especially in Software Engineering, and sharpening my research and development skills, and (2) using such talents and skill set in the development of a knowledge-based society with a sustainable economy and many enlightened minds.

EDUCATION *Doctor of Philosophy*, Computer Science/Software Engineering
University of Saskatchewan, Canada
September 2014– current
Concentration: Software Engineering
Advisor: Prof. Dr. Chanchal K. Roy

Master of Science, Computer Science/Software Engineering
University of Saskatchewan, Canada
September 2012–August 2014
Thesis: Exploiting Context in Dealing with Programming Errors and Exceptions in the IDE
Supervisor: Prof. Dr. Chanchal K. Roy

Bachelor of Science, Computer Science and Engineering
Khulna University, Bangladesh
January 2005–March 2009
Thesis: Information Retrieval by Modified Term Weighting Method using Random Walk Model with Query Term Position Ranking
Supervisor: Prof. Dr. Abu Shamim Mohammad Arif

PUBLICATIONS 2016 (16)

M. Masudur Rahman, C.K. Roy, and Jason Collins, “*CORRECT: Code Reviewer Recommendation in GitHub Based on Cross-Project and Technology Experience*”, In Proceeding of The 38th International Conference on Software Engineering (ICSE 2016), pp. 222–231, Austin Texas, USA, May 2016 (Acceptance rate: 26%)

M. Masudur Rahman and C.K. Roy, “*QUICKAR: Automatic Query Reformulation for Concept Location Using Crowdsourced Knowledge*”, In Proceeding of The 31st IEEE/ACM International Conference on Automated Software Engineering (ASE 2016) (New Idea Track), pp. 6, Singapore, September 2016 (to appear)

M. Masudur Rahman, C.K. Roy, Jesse Redl, and Jason Collins, “*CORRECT: Code Reviewer Recommendation at GitHub for Vendasta Technologies*”, In Proceeding of The 31st IEEE/ACM International Conference on Automated Software Engineering (ASE 2016) (Tool Demo Track), pp. 6, Singapore, September 2016 (to appear)

M. Masudur Rahman, C.K. Roy and David Lo, “*RACK: Automatic API Recommendation using Crowdsourced Knowledge*”, In Proceeding of The 23rd IEEE International Conference on Software Analysis, Evolution, and Reengineering (SANER 2016), pp. 349–359, Osaka, Japan, March 2016 (Acceptance rate: 37%)

Amit K. Mondal, **M. Masudur Rahman** and C. K. Roy, “*Embedded Emotion-based Classification of Stack Overflow Questions Towards the Question Quality Prediction*”, In Proceeding of The 28th International Conference on Software Engineering & Knowledge Engineering (SEKE 2016), 6 pp., San Francisco Bay, California, USA, July 2016 (Acceptance rate: 29.7%)

2015

M. Masudur Rahman, C.K. Roy and Iman Keivanloo, “*Recommending Insightful Comments for Source Code using Crowdsourced Knowledge*”, In Proceeding of The 15th IEEE International Working Conference on Source Code Analysis and Manipulation (SCAM 2015), pp. 81–90, Bremen, Germany, September 2015 (Acceptance: 35.29%)

M. Masudur Rahman and C.K. Roy, “*Recommending Relevant Sections from a Webpage about Programming Errors and Exceptions*”, In Proceeding of The 25th International Conference on Computer Science and Software Engineering (CASCON 2015), pp. 181–190, Markham, Canada, November 2015 (Acceptance: 29.57%) (to appear)

M. Masudur Rahman and C.K. Roy, “*An Insight into the Unresolved Questions at Stack Overflow*”, In Proceeding of the 12th Working Conference on Mining Software Repositories (Challenge Track) (MSR 2015), pp. 426–429, Florence, Italy, May 2015

M. Masudur Rahman and C.K. Roy, “*TextRank Based Search Term Identification for Software Change Tasks*”, In Proceeding of the 22nd IEEE International Conference on Software Analysis, Evolution, and Reengineering (ERA Track) (SANER 2015), pp. 540–544, Montreal, Canada, March 2015

2014

M. Masudur Rahman and C.K. Roy, “*On the Use of Context in Recommending Exception Handling Code Examples*”, In Proceeding of the 14th IEEE International Working Conference on Source Code Analysis and Manipulation (SCAM 2014), pp. 285–294, Victoria, Canada, September 2014 (Acceptance: 31.7%)

M. Masudur Rahman and C.K. Roy, “*Surfclipse: Context-Aware Meta Search in the IDE*”, In Proceeding of the 30th International Conference on Software Maintenance and Evolution (Tool Demo Track) (ICSME 2014), pp. 617–620, Victoria, Canada, September 2014

M. Masudur Rahman and C.K. Roy, “*An Insight into the Pull Requests of GitHub*”, In Proceeding of the 11th Working Conference on Mining Software Repositories (Challenge Track) (MSR 2014), pp. 364–367, Hyderabad, India, May 2014

M. Masudur Rahman, S. Yeasmin and C.K. Roy, “*Towards a Context-Aware Meta Search Engine for IDE-Based Recommendation about Programming Errors and Exceptions*”, In Proceeding of the IEEE CSMR-18/WCRE-21 Software Evolution Week (CSMR/WCRE 2014), pp. 194–203, Antwerp, Belgium, February 2014 (Acceptance: 31.03%)

2013

M. Masudur Rahman, S. Yeasmin and C. K. Roy, “*An IDE-Based Context-Aware Meta Search Engine*”, In Proceedings of the 20th Working Conference on Reverse Engineering (ERA Track) (WCRE 2013), pp. 467–471, Koblenz, Germany, October 2013

Previous years

Hafizur Rahman, Md. Mizanur Rashid and **Masudur Rahman**, “*Heritage Interpretation: Collective Reconstruction of Sompur Mahavihara, Bangladesh*”, In Proceedings of International Conference on Virtual Systems and Multimedia (VSMM 2010), pp. 163–170, Seoul, South Korea, October 2010

Abu Shamim Mohammad Arif, **M. Masudur Rahman** and Shamima Yeasmin Mukta, “*Information Retrieval by Modified Term Weighting Method using Random Walk Model with Query Term Position Ranking*”, In Proceedings of International Conference on Signal Processing Systems (ICSPS 2009), pp. 526–530, Singapore, May 2009

AWARDS (15) 2013–2016

NSERC Industry Engage Grant (2016): Awarded by NSERC for industry collaboration with Vendasta Technologies, Saskatoon, Canada

International Dean’s Scholarship (2014–2017): Awarded by University of Saskatchewan for PhD in Computer Science/Software Engineering

Faculty Scholarship & GTF (2012–2014): Awarded by the Department of Computer Science, University of Saskatchewan for Master in Computer Science

NSERC Vanier Scholarship 2015 (Nominated): I was nominated for the prestigious Vanier Graduate Scholarship by the Department of Computer Science, U of S

Best Thesis Award 2014 (Nominated): My MSc thesis was nominated for the Best Thesis Award 2014 by the Department of Computer Science, U of S

Best Graduate Award 2014 (Nominated): I was nominated for the Best Graduate Award 2014 from the Department of Computer Science, U of S

Graduate Travel Award (2015): Awarded by University of Saskatchewan for CASCON 2015, Markham, Canada

Graduate Travel Award (2014): Awarded by GrammaTech Company for SCAM 2014, Victoria, Canada

Graduate Travel Award (2013): Awarded by University of Saskatchewan for WCRE 2013, Koblenz, Germany

2010–2011

Chancellor Gold Medal (2010): Awarded by President, Peoples’ Republic of Bangladesh and Chancellor, Khulna University. I scored the highest CGPA 3.91/4.00 in the year 2008 among all five departments from School of Science, Engineering and Technology, Khulna University

Prime Minister Gold Medal (2011): Nominated by School of Science, Engineering and Technology, Khulna University. I scored the highest CGPA 3.91/4.00 in B.Sc in Computer Science and Engineering, Khulna University

Service Excellence Award (2010): Awarded by NOCHALLENGE TECHNOLOGY LLC for service excellence

Previous years

Dean's Merit List Scholarship (2006-2009): Awarded by Khulna University during 2006 to 2009. I scored the 1st position in all four academic years of B.Sc in CSE

Merit List Scholarship (2005-2007): Awarded by Government Education Board (Jessore) during 2005 to 2007 for HSC results in 2003

Merit List Scholarship (2001-2002): Awarded by Government Education Board (Jessore) during 2001 to 2002 for SSC results in 2001

EMPLOYMENT HISTORY (3) **Lecturer,** Computer Science and Engineering
Khulna University, Khulna-9208, Bangladesh
November 2009– current (on study leave)

Lead Application System Engineer
NOCHALLENGE TECHNOLOGY LLC, Minneapolis, MN, USA
May 2009– July 2012 (full time & part time)

Graduate Teaching Assistant
University of Saskatchewan, Canada
September 2012– current

RESEARCH **Interests:** Code review, Concept location, Code re-documentation, Code debugging, Code search, Mining insights from crowdsourced knowledge (e.g., Stack Overflow) and software repositories (e.g., GitHub, BugZilla, JIRA), Context-aware and IDE-based recommendation, and Big data in Software Engineering.

Reviewer: ICSME, SANER, MSR, SCAM, ICPC, CASCON, and JSS

PhD Research Projects (2014–current): I am currently working on the following research projects as a part of my PhD course and research work.

- **CoRRecT:** An automated code reviewer recommender for pull requests at GitHub, in collaboration with *VendAsta Technologies* (ICSE 2016 and ASE 2016)
- **QUICKAR:** Query reformulation for concept location using crowdsourced knowledge from Stack Overflow (one paper at ASE 2016)
- **SOTraceQ:** TextRank-based search term recommender for software change tasks (one paper at SANER 2015)
- **RACK:** An automated API recommendation system for code search using crowd knowledge from Stack Overflow (one paper at SANER 2016)

- **BRACK:** An automated technique for estimating bug-proneness of API methods using crowd knowledge from Stack Overflow.
- **CodeInsight:** Insightful comment recommender for source code using crowd-sourced knowledge from Stack Overflow (one paper at SCAM 2015)
- **STRICT:** Information Retrieval (TextRank & POSRank) Based Search Term Identification for Software Change Tasks.
- **REVHELPER:** An automated code element recommendation technique for complementing non-useful review comments from modern code reviews.

MSR Mining Challenge Projects (2014–2016): I have been taking part in the MSR mining challenge since 2014, and completed the following projects:

- **MSRCH 2015:** An insight into the unresolved (i.e., answer not accepted as solution) questions from Stack Overflow.
- **MSRCH 2014:** An insight into the merge success and merge failure of pull requests from GitHub.

Master Research Projects (2012–2014): I completed the following research projects during my Master in Computer Science at the University of Saskatchewan:

- **SurfClipse:** An IDE-based context-aware meta search engine for programming errors and exceptions (three papers at ICSME 2014, CSMR 2014, WCRE 2013)
- **SurfExample:** An IDE-based context-aware code example recommender for exception handling (one paper at SCAM 2014)
- **ContentSuggest:** A context-aware web page content recommender in the IDE (one paper at CASCON 2015)
- **QueryClipse:** A context-aware search query recommender for programming errors and exceptions (one paper at ICSME 2014)
- **ExcClipse:** An integration of all four plugins– SurfClipse, QueryClipse, ContentSuggest and SurfExample

Tool Experience: MATLAB, R, WEKA, Latex, Balsamiq, Szooter, Phidget

Thesis Supervision (2010-2012): I supervised the following undergraduate theses during my stay at Khulna University, Bangladesh:

- Web Services Performance improvement by modifying SOAP security principles
- Automatic Seed Set Expansion for Anti-trust based Anti-spamming Algorithms

OUTREACH (4) I had or have been actively collaborating with prominent researchers from three reputed universities and one industrial partner for several of my research projects.

- Singapore Management University, Singapore
- Osaka University, Japan
- Concordia University, Canada
- Vendasta Technologies, Canada

COURSES (7)

Courses Taken: I took the following graduate courses during my Master and PhD in Computer Science at University of Saskatchewan, and ended up with 88.71% average:

- CMPT 846: Software Maintenance & Evolution (92%)
- CMPT 816: Advanced Software Engineering (93%)
- CMPT 880: Research Method & Topics (90%)
- CMPT 898: Machine Learning (89%)
- CMPT 811: Human Computer Interaction (79%)
- CMPT 898: Big Data Analytics in Software Engineering (92%)
- CMPT 842: Mobile and Cloud Computing (86%)

TEACHING

Courses Taught: I taught the following courses at Khulna University, Bangladesh:

- Software Engineering (CSE 3101)
- Information System Analysis and Design (CSE 3203)
- Microprocessor and Interfacing (CSE 3111)
- Object Oriented Programming (CSE 1201)
- Computer Fundamentals (CSE 1100)
- Software Development Projects I & II (CSE 2200 & CSE 3100)
- Seminar (CSE 4102)

Courses Marked: I mark the following courses at University of Saskatchewan:

- CMPT 370: Intermediate Software Engineering (2012, 2013, 2014)
- CMPT 352: An Introduction to Information Security (2015)
- CMPT 115: Principles of Computer Science (2013, 2014)

PROBLEM SOLVING

I love problem solving using programming, take part in ACM online contests and I have the following skills:

Desktop Application Programming: C/C++, Java (J2SE), C#.NET, 8086 (MASM), ns-2.32, SWI-Prolog, MATLAB

Programming Achievements: I took part in different in-campus, national and international programming contests, and scored top positions:

- 2007: **First** in KU Programming Contest
- 2007: **33rd** in National Programming Contest among about 100 teams
- 2008: **Second** in KU Programming Contest
- 2008: **51st** in ACM ICPC Dhaka among 92 teams

**INDUSTRY
EXPERIENCE**

I have three years of professional software development experience in the industry, and I have the following programming and technical skills:

Web Application Programming: ASP.net, AJAX, MVC, PHP, Coolite, Ext.NET, Javascript, CSS, JQuery, JQueryUI, XHTML, XML

Database Programming: PL/SQL, MS SQL Server, Oracle 9, MS Access, JDBC, ODBC

Professional Working experience: JCarousel, Lightbox, JQuery Map, Google Map, Fusion Map, Payment Integration, Finance API Integration, DirectXCapture, Social Web Integration, Email Marketing, SpryAsset, Zoom Map, E-Commerce development and Management, and HTML Scraping

Technical Software Skills: MS Visual Studio.NET, Net Beans, Pencil, JCreator, FileZilla, BugZilla, TortoiseHg, Crystal Report, ULead Studio, PhotoShop, Dreamweaver, DotNetNuke, Joomla, and Plesk Web Administration.

Professional Software Projects: I completed and led several professional software projects during my stay at NOCHALLENGE TECHNOLOGY LLC, and some of them are as follows:

- **PicIssu:** An automated web-based software issue tracking and management system that facilitates the instant screen capture of software issue locations
- **BizWhack:** An e-commerce application for buying and selling of business, real estates and franchises online
- **CrabTree Screener:** A windows application that scraps thousands of Yahoo! finance web pages for stock quotes

LEADERSHIP

VP Internal (2014–2016), Computer Science Graduate Course Council, U of S
Publication Secretary (2005–2006), CLUSTER, Khulna University
House Cultural Prefect (2002–2003), Hunain House, Jhenidah Cadet College

OTHERS

Language Skills: Bangla (mother tongue), English (IELTS 7.0)

Professional Membership: IEEE Student, ACM SIGSOFT, and IACSIT

Other Interests: Movies, Cricket, Table Tennis, Badminton, Music, Debate, Reading, Blogging, Drawing, Fishing and many more.

REFERENCES

(1) **Dr. Chanchal K. Roy**
Associate Professor, University of Saskatchewan, Canada
Email: chanchal.roy@usask.ca

(2) **Jason Collins**
Technical Solutions Consultant, Google Inc, CA, USA
Email: jasonco@google.com

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Please contact me (masud.rahman@usask.ca) for further information.