AMIRA GHENAI

Email: aghenai@torontomu.ca   Web: https://aghenai.github.io

RESEARCH INTEREST

Social Media Analysis, Data Science and Data Analytics, Fairness in Artificial Intelligence, Accessibility, Inclusive Design, Human Computer Interaction

EDUCATION

PhD in Computer Science *Dec 2019*
School of Computer Science, University of Waterloo - Waterloo, ON
PhD thesis: *Health Misinformation in Search and Social Media*
URL: https://uwspace.uwaterloo.ca/handle/10012/15268
Supervisors: Dr. Charles L. A. Clarke, Dr. Mark D. Smucker

Masters of Science in Computing (Software Engineering) with *Merit* *Nov 2013*
Department of Computing, Imperial College London - London, UK
Disertation title: *Exploring Trust-Aware Neighbourhood in Trust-based Recommendation*
URL: https://arxiv.org/abs/1608.05380
Supervisor: Dr. Moustafa M.Ghanem

Bachelor of Science in Computer Engineering with *Honors* *Jan 2011*
Department of Computer Science and Engineering, Qatar University - Qatar
Disertation title: *Data Analysis Using MapReduce Programming Model on the Cloud*
URL: https://cs.uwaterloo.ca/~aghenai/assets/publications/design_project.pdf
Supervisor: Dr. Qutaibah M. Malluhi
Member of Vice President list, Member of the dean's list

EMPLOYMENT

Assistant Professor Jan 2022 – present
Ted Rogers School of Management - Toronto Metropolitan University (TMU) - Toronto, ON
Full-time, Tenure-Track
Develop and teach undergraduate and graduate courses, conduct research and produce peer-reviewed publications, establish and maintain an independent, externally funded research program, contribute to the life of the School through collegial service.

Adjunct Professor Jun 2023 – present
School of Computer Science, University of Waterloo - Waterloo, ON
Supervise graduate students to conduct research about the impact of AI systems' biases on individuals' attitudes, beliefs, and behaviours in various contexts.

Postdoctoral Fellow Feb 2020 – Oct 2021
Accessible Computing Technologies Research Group, McGill University - Montreal, QC
Supervisor: Dr. Karyn Moffatt
Using qualitative methods to study older adults' challenges with online misinformation, to measure older adults' exposure to COVID-19 misinformation, and to design a platform that helps Canadian older adults deal with misinformation.

Sessional Lecturer Jan 2021 – Apr 2021
Department of Management Sciences - Faculty of Engineering, University of Waterloo, ON
Course title: "Introduction to Computer Programming" (remote)
Design the course curriculum including the learning outcomes, develop and implement lesson plans and activities through distance or virtual learning (asynchronous video lectures and synchronous office hours

and problem solving sessions), use appropriate instructional strategies, and resources for remote learning (online discussion boards, virtual classrooms etc.), conduct Outcomes-Based Assessment (OBA) to measure the course assessments against attributes for accreditation, as developed by the Canadian Engineering Association Board (CEAB), manage the workflow of the TAs to grade assignments, hold office hours, and conduct tutorials

Researcher (Part-time/Remote)   May 2020 – Dec 2020
TMU, Social Media Lab - Toronto, ON
Supervisors: Dr. Anatoliy Gruzd & Dr. Philip Mai
Identifying COVID-19 vaccine-related misinformation messages on Twitter and building the retweet prorogation patterns to explore the misinformation spread on Twitter

Lab Instructor (Instructional Apprentice - IA)   Fall 2017, Winter 2017
Department of Computer Science, Faculty of Mathematics, University of Waterloo, ON
Conducted tutorials for the basic concepts in computer science course using Python. Among the topics covered: strings and lists, recursion, searching, sorting and graph theory, taught labs for the foundational concepts in computer science course using Racket. Among the topics covered: design recipe, compound data structures, lists, recursion, binary and general trees, assisted students with assignments and grade and proctor mid-term and final exams, received an excellent course evaluation as lab instructor

Teaching Assistant - TA   Spring 2017, Fall 2016
Department of Computer Science, Faculty of Mathematics, University of Waterloo, ON
Graded ten assignments and two exams per term for the undergraduate course "propositional logic", among the topics covered in this course are: syntax and semantics of propositional logic, natural deduction, soundness and completeness, analysis of functional programs and program verification, received an excellent course evaluation as teaching assistant

Research Associate   Jan 2013 – Jul, 2013
Qatar Computing Research Institute, Qatar Foundation - Qatar
Supervisor: Dr. Carlos Castillo
Collected news related tweets using Twitter API and tracked tweets news propagation on Twitter

Research Assistant   Sep 2011 – Jun 2012
Qatar Computing Research Institute, Qatar Foundation - Qatar
Supervisor: Dr. Sihem Amer-Yahia
Clustered Al-Jazeera news articles based on topics using LDA and Open-Calais tool, used Mechanical-Turk for evaluating the clusters, and built a dashboard to visualize the articles dynamics which helps journalists gather insights about topics

Undergraduate Research Assistant   Oct 2009 – Aug 2011
Department of Computer Science and Engineering, Qatar University - Qatar
Supervisor: Dr. Qutaibah Malluhi
Used map reduce programming model to build an inverted index of text documents and built a interractive Java user interface to search for specific keywords

Peer Tutor   Sep 2008 – Jun 2009
Student Support Learning Centre, Qatar University, Qatar Tutored basic and advanced Math and Calculus subjects, tutored basic data structure courses using Java and C++ as programming languages, presented the Student Support Learning Centre in the National Tutoring Association conference

HONORS & AWARDS

Awards

- Career Boost Excellence & Boldness Award   2024–2025
- TRSM Outstanding Research Recognition Award   2024–2025

- Undergraduate Student Research Award (URO/USRA)   2024–2025

Research Grants

- SSHRC Insight Development Grants   2024–2026
- TRSM Internal Equipment Grant   2024–2025
- TRSM Matching Funds   2024–2025
- Career Boost Program   2023–2025
- Interdisciplinary Development Initiatives - Western University of Health Sciences   2024–2025
- MITACS Globalink Research Internship (for international students)   2022–2025
- Discovery Grant, Natural Sciences and Engineering Research Council (NSERC)   2022
- Research Development Grant, Ted Rogers School of Management   2022

Scholarships and Fellowships [1]

- AGE-WELL Graduate Student and Postdoctoral Award in Technology and Aging,   2020 – 2021
  $20,000 over 1 year (Acceptance rate **15%**)
- Waterloo University Graduate Research Studentship, $13,000 over two terms   2019
- Qatar Research Leadership Doctoral Fellowship, Qatar Foundation, $200,000 over 4 yrs   2014 – 2018
- Qatar Research Leadership Program Scholarship, Qatar Foundation, $50,000 over 1 yr   2012 – 2013
- High School Excellence Scholarship, Qatar, $40,000 over 5 yrs   2006 – 2011

PUBLICATIONS

Refereed Journal Articles

[**J.10**] F. Shazra Asmy, Daniel Boxer, Hunter Shiells, Deborah I. Fels, **Amira Ghenai**. (2025). Gaining Presence for Neurodiverse Students in Hybrid Classes Using WebMoti. AIS Transactions on Human-Computer Interaction. *Under review*

[**J.9**] **Amira Ghenai**, Xiaoning Wang, Karyn Moffatt. (2025). Navigating Online Misinformation: Understanding Older Adults' Information-Seeking Behavior in Health Crises. Computers and Human Behavior Reports. *Under review*

[**J.8**] Zeinab Noorian; Parya Abadeh; Fattane Zarrinkalam; **Amira Ghenai**. (2025). Music Listening, Mental Health, and Stress: A Computational Framework for Personalized Analysis and Recommendation. Transactions on Information Systems. *Under review*

[**J.7**] **Amira Ghenai** , Keshav Nath, Aarat Satsangi. (2025). AGECovP: Identifying Ageism and Analyzing COVID-19 Discourse on Older Adults in YouTube. EPJ Data Science. *Under review*

[**J.6**] Soroush Zamani Alavijeh, Xingwei Yang, Zeinab Noorian, **Amira Ghenai**, Fattane Zarrinkalam. (2025). Twitter-MusicPD: Melody of Minds - Navigating User-Level Data on Multiple Mental Health Disorders and Music Preferences. EPJ Data Science.

[**J.5**] **Amira Ghenai**, Zeinab Noorian, Hadiseh Moradisani, Parya Abadeh, Caroline Erentzen, Fattane Zarrinkalam. (2025). Exploring Hate Speech Dynamics: The Emotional, Linguistic, and Thematic Impact on Social Media Users. Information Processing and Management.

[**J.4**] Mazin Abdalla, Parya Abadeh, Zeinab Noorian, **Amira Ghenai**, Fattane Zarrinkalam, Soroush Zamani Alavijeh. (2025). The impact of listening to music on stress level for Anxiety, Depression and PTSD: Mixed-Effect models and Propensity Score Analysis. IEEE Transactions on Computational Social Systems.

[**J.3**] Zeinab Noorian, **Amira Ghenai**, Hadiseh Moradisani, Fattane Zarrinkalam and Soroush Zamani Alavijeh (2024). User-centric Modeling of Online Hate through the lens of Psycholinguistic Patterns and Behaviors in Social Media. IEEE Transactions on Computational Social Systems.

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[1]Scholarship values are approximated

[J.2] **Amira Ghenai**, Philips Ayeni, Jing Yu, Robin Cohen and Karyn Moffatt (2023). Guidelines for Designing Social Networking Sites for older Adults: a Systematic Review with Thematic Synthesis. ACM Transactions on Accessible Computing (TACCESS).

[J.1] Robin Cohen, Karyn Moffatt, **Amira Ghenai**, Andy Yang, Margaret Corwin, Gary Lin, Raymond Zhao, Yipeng Ji, Alexandre Parmentier, Jason PNg, Wil Tan and Lachlan Gray (2020). Addressing Misinformation in Online Social Networks: Diverse Platforms and the Potential of Multiagent Trust Modeling. the Information journal - Special issues: Tackling Misinformation Online.

Refereed Conference papers[2]

[C.8] **Amira Ghenai**, Philip Ayeni, Jing Yu, Robin Cohen, Karyn Moffatt. Guidelines for Designing Social Networking Sites for older Adults: a Systematic Review with Thematic Synthesis. The 26th International ACM SIGACCESS Conference on Computers and Accessibility (ASSETS), Newfoundland and Labrador, Canada.

[C.7] Anatoliy Gruzd, **Amira Ghenai**, Philip Mai (2024). How COVID-19 Conspiracy Theories Spread on Twitter. The Hawaii International Conference on System Sciences (HICSS).

[C.6] **Amira Ghenai**, Robin Cohen, Karyn Moffatt, Xueguang Ma, Andy Yang, Yipeng Ji (2021). E-Health for Older Adults: Navigating Misinformation. The International Conference on Information and Communication Technologies for Ageing Well and e-Health.

[C.5] **Amira Ghenai**, Mark D. Smucker and Charles L. A. Clarke (2020). A Think-Aloud Study about Medical Misinformation in Search Results. The 5th ACM (CHIIR) Conference on Human Information Interaction and Retrieval, Vancouver, Canada. (37%)

[C.4] **Amira Ghenai**, Yelena Mejova (2018). Fake Cures: User-centric Modeling of Health Misinformation in Social Media. The 21st ACM Conference on Computer-Supported Cooperative Work and Social Computing (CSCW), New York City's Hudson River (Jersey City). (27%)

[C.3] **Amira Ghenai**, Yelena Mejova (2017). Catching Zika Fever: Application of Crowdsourcing and Machine Learning for Tracking Health Misinformation on Twitter. The 5th IEEE International Conference on Healthcare Informatics (ICHI). Park City, Utah. USA. (27%)

[C.2] Frances Pogacar, **Amira Ghenai**, Mark D. Smucker, Charles L. A. Clarke (2017). The Positive and Negative Influence of Search Results on People's Decisions about the Efficacy of Medical Treatments. The 3rd ACM International Conference on the Theory of Information Retrieval (ICTIR), Amsterdam. Netherlands. (54%)

[C.1] Sihem Amer-Yahia, Samreen Anjum, **Amira Ghenai**, Aysha Siddique, Sofiane Abbar, Sam Madden, Adam Marcus and Mohammed El-Haddad (2012). Maqsa: a system for social analytics on news. The 2012 ACM International Conference on Management of Data (SIGMOD), Arizona. USA. (17%)

Doctoral Consortium

[D.2] **Amira Ghenai** (2017). PhD Track: Health misinformation in search and social media, ACM Digital Health, London. UK

[D.1] **Amira Ghenai**, (2017). Doctoral Consortium: Health misinformation in search and social media, SIGIR'17, Tokyo. Japan

Posters/Workshops

[P.2] **Amira Ghenai**, Mark D. Smucker and Charles L. A. Clarke (2019). A Think-Aloud Study about Medical Misinformation in Search Results. ACM SIGIR 2019 Workshop on Reducing Online Misinformation Exposure (ROME), Paris, France.

[P.1] **Amira Ghenai**, Daniel J. Lizotte (2015). What makes a review useful, funny or cool on Yelp.com? Machine Learning and Data Analytics Symposium MLDAS 2015, Doha. Qatar

Unrefereed papers

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[2]Where available, acceptance rates are provided in brackets.

[U.3] Amira Ghenai, Moustafa M.Ghanem (2016). Exploring Trust-Aware Neighbourhood in Trust-based Recommendation. arXiv preprint arXiv:1608.05380

[U.2] Amira Ghenai, Eldar Khalilov, Pavel Valov, Charles L. A. Clarke (2015). WaterlooClarke: TREC 2015 Clinical Decision Support Track. TREC Conference 2015, Maryland, USA

[U.1] Amira Ghenai, Nabiha Asghar (2015). Automatic Discovery of Functional Dependencies and Conditional Functional Dependencies: A Comparative Study. University of Waterloo

TRAINING OF HQP

Graduate Student Principal Supervisor   Sep 2024 – present
Omar Ahmed, Master of Science Management (MSc), TMU

- Research topic: Hate speech spread in social media platforms

Graduate Student Co-Supervisor   Sep 2024 – present
Hunter Shiells, Master of Science Management (MSc), TMU

- Research topic: Webmoti-Employ: job interview assistant system for neuro-divergent people

Graduate Student Co-Supervisor   Sep 2024 – present
Shakiba Amirshahi, Master of Computer Science (MSc), UWaterloo

- Research topic: Detecting and quantifying harmful biases in content generated by LLMs

Graduate Student Co-Supervisor   Sep 2024 – present
Pariya Abadeh, Master of Computer Science (MSc), UGuelph

- Research topic: On the relationship between Mental Health and Music Present Position

Undergraduate Student Principal Supervisor   Summer 2025
Nour Labidi, Mitacs Globalink Research Internship

- Research topic: Conspiracy theories spread in Bluesky

Undergraduate Student Principal Supervisor   Summer 2025
Brianna Chiguichno, Career Boost Program

- Research topic: Using eye tracking to determine older adult's on-line health-related search

Undergraduate Student Principal Supervisor   Summer 2025
Boxer Daniel, Career Boost Program

- Research topic: Telepresence Control for Neurodivergent Learners

Undergraduate Student Principal Supervisor   Summer 2025
Zil Pavdighada, Career Boost Program

- Research topic: Using eye tracking to determine older adult's on-line health-related search

Graduate Student Principal Supervisor   Jun 2025 – Sep 2025
Muhammad Maqsud Hussain, Data Science and Analytics (MSc), TMU

- Research topic: Misinformation propagation during the 2024 US presidential elections

Graduate Student Co-Supervisor   Jun 2023 – 2025
Shazra Asmy, Ted Rogers School of Management, TMU

- Research topic: WebMoti: Supporting Virtual Students in Hybrid Classes

Graduate Student Advisor May 2023 – 2025
Xiaoning Wang, Master of Information Studies (MSc), Mcgill University

- Research topic: Online Misinformation and Older Adults

Undergraduate Student Principal Supervisor Fall-Winter 2024
Marija Simic, Undergraduate Research Assistanship

- Research topic: Using eye tracking to determine older adult's on-line health-related search

Graduate Student Principal Supervisor Jan 2022 – Sep 2023
Gurjyot Singh Anand, Data Science and Analytics (MSc), TMU

- Research topic: Credit Card Fraud Detection using Machine Learning

Undergraduate Student Principal Supervisor Summer 2024
Maleke Khemiri, Mitacs Globalink Research Internship

- Research topic: Conspiracy theories spread on social media platforms

Undergraduate Student Principal Supervisor Summer 2023
Keshav Nath, Mitacs Globalink Research Internship

- Research topic: The impact of hate speech on the online human behavior (GAB platform)

Undergraduate Student Principal Supervisor Summer 2023
Sivaprasath Subramanian, Mitacs Globalink Research Internship

- Research topic: Analyzing user-generated YouTube videos to understand ageing, old age and older adults

Undergraduate Student Principal Supervisor Summer 2022
Saksham Thareja, Mitacs Globalink Research Internship

- Research topic: Analyzing user-generated videos: Images of older adults in YouTube

Undergraduate Student Principal Supervisor Summer 2022
Aarat Satsangi, Mitacs Globalink Research Internship

- Research topic: Analyzing user-generated YouTube videos to understand ageing, old age and older adults

Graduate Student Advisor Sep 2020 – Aug 2021
Maria Tippler, Master of Information Studies (MSc), McGill Unniversity

- Research topic: COVID-19 misinformation and older adults
- Advised on data analysis and online survey design approaches

Undergraduate Student Advisor Mar 2020 – Jul 2020
Xueguang Ma, Undergraduate research assistant of Dr. Robin Cohen

- Research topic: Fake reviews and older adults
- Supervised research tasks; set goals; monitored productivity; and provided constructive feedback

TEACHING

Assistant Professor
Information Technology Management - Ted Rogers School of Management, TMU University

- Course: ITM305 System Analysis and Design
- Course: ITM975 Social Media Analytics

Guest Lecturer

School of Information Studies - Faculty of Arts, McGill University, QC   Nov 2020
- Title: The think-aloud method for system usability analysis
- Course: Usability Analysis and Assessment (graduate course)

Department of Mathematics, University of Waterloo - Waterloo, ON   Oct 2018
- Title: Fake Cures: User-centric Modeling of Health Misinformation in Social Media
- Course: Topics in AI/Trust and Online Social Networks (graduate course)

Fundamentals of University Teaching program   Mar 2017
Centre For Teaching Excellence (CTE), University of Waterloo, ON

- Received the *Fundamentals of University Teaching* certificate accredited by the *Canadian Educational Developers Caucus*
- Participated in 6 university teaching workshops offered by CTE including: teaching methods, classroom delivery skills, effective lesson plans, and giving quality feedback to enhance teaching skills
- Conducted three microteaching sessions aimed to practice different teaching skills
- Delivered three mini lessons to practice giving and receiving feedback on teaching methods

INVITED TALKS

- **Exploring hate speech dynamics: The emotional, linguistic, and thematic impact on social media users**   Feb 2025
  Centre for Advancing Responsible and Ethical Artificial Intelligence, Toronto, Canada
- **Designing Systems to Better Address the Problem of Misinformation**   Mar 2020
  Women in Data Science Conference. Ottawa, ON
- **A Think-Aloud Study to Understand Factors Affecting Online Health Search**   Oct 2019
  School of Information Studies, McGill University. Montreal, QC
- **The Positive and Negative Influence of Search Results on People's Decisions about the Efficacy of Medical Treatments**   Dec 2017
  Research collaboration talk between Waterloo university and Google Inc. Mountain View, CA
- **Health Misinformation in Search and Social Media**   Aug 2017
  ACM SIGIR'17 conference, Tokyo. Japan
- **Health Misinformation in Search and Social Media**   Jul 2017
  ACM Digital Health'17 conference, London. UK
- **Zika Misinformation Tracking in Social Media**   Sep 2016
  Qatar Computing Research Institute, Doha. Qatar
- **What Makes a Review Useful, Funny or Cool on Yelp.com**   Nov 2015
  The Second Machine Learning and Data Analytics (MLDAS) Symposium, Doha. Qatar
- **Discovering Conditional Functional Dependencies**   Mar 2015
  University of Waterloo. ON

PROFESSIONAL SERVICE

- **Reviewer**, The International Conference on Human-Computer Interaction (CHI)   Apr 2025
- **Reviewer**, The International AAAI Conference on Web and Social Media   Jan 2025
- **PC Member**, The 6th Workshop on Data for the Wellbeing of the Most Vulnerable   Apr 2025
- **Reviewer**, The European Conference on Information Retrieval (ECIR)   Dec 2024
- **Reviewer**, The Hawaii International Conference on System Sciences   Jan 2024
- **Reviewer**, The Conference on Information and Knowledge Management' 2023 (CIKM)   Jul 2023
- **Reviewer**, The 18th International Conference on Web & Social Media   Jun 2023

- **Reviewer**, The Conference on Information and Knowledge Management' 2022 (CIKM) — Jun 2022
- **Reviewer**, Graphics Interface' 2022 (GI) — May 2022
- **Dataset Track co-Chair**, ICWSM' 2022 — Mar 2022
- **Reviewer**, TheWebConf 2022 (WWW) — Dec 2021
- **Reviewer**, Computers in Human Behavior Journal — Nov 2021
- **Program Committee Chair**, Diversity, Inclusively, and Accessibility, ICWSM'2021 — Jun 2021
- **Journal Reviewer**, The Big Data & Society, SAGE Journal — Dec 2020
- **Program Committee Member**, ACM CHIIR 2021 — Oct 2020
- **Program Committee Member**, TheWebConf 2021 (WWW) — Oct 2020
- **Journal Reviewer**, The Journal of Medical Internet Research (JMIR) — Sep 2020
- **Conference Reviewer**, ACM CSCW — Jun 2020
- **Journal Reviewer**, The Journal of Medical Internet Research (JMIR) — Jun 2020
- **Program Committee Member**, ACM Conference on Digital Health — Jul 2019
- **Program Committee Member**, ACM Conference on Digital Health — Jul 2018
- **Conference Reviewer**, The 27th World Wide Web Conference — Apr 2018
- **Program Committee Member**, ACM Conference on Digital Health — Jul 2017

UNIVERSITY SERVICE AND LEADERSHIP EXPERIENCE

- **Committee Member**, Scholarly, Research, and Creative activity committee, TMU — Sep 24 – May 25
- **PhD Thesis Committee Member**, TMU — Apr 2025
- **Committee Member**, Irene Campagna Award, TMU — Dec 2024
- **MSc Thesis Committee Member**, Chair, TMU — May 2023
- **Committee Member**, Student Award Committee, TMU — Oct 2023
- **PhD Thesis Committee Member**, Internal external examiner, TMU — Sep 2022
- **PhD Thesis Committee Member**, External examiner, University of Strathclyde — Sep 2022
- **Committee Member**, Women in Computer Science, University of Waterloo — Jan 15 – Apr 17
- **Judge** in a programming competition for grade 8 girls, University of Waterloo — Oct 2015
- **Member**, Student Scientific Research Club, Qatar University — Jan 07 – Dec 10
- **Volunteer**, The 17th International Conference on Telecommunications 2010 — Apr 2010
- **Volunteer**, The 11th International Conference on Relational Methods in CS — Nov 2009
- **Orientation Volunteer**, Qatar University Orientation Day, Qatar — Aug 2009

MEDIA APPEARANCE

- **Search results influence people's decisions about treatment effectiveness** — Mar 2018
  Article published by Joe Petrik. Cheriton School of Computer Science News
- **Think twice before consulting Dr. Google, researchers say**. — Apr 2018
  Interview with Kelly Crowe. CBC NEWS
- **Is searching for health information online a good idea?**. — Apr 2018
  Interview with Su-Ling Goh. Global News - Edmonton
- **Health misinformation in online search**. — Apr 2018
  Interview with Mike Farwell. 570 News - The Mike Farwell Show

INDUSTRY/INTERNSHIP EXPERIENCE

- **Data Scientist Intern**, Thomson Reuters Labs - ON   Feb – Apr 2018
  Applied entity extraction to legal documents (extract main parties, term duration, etc.).
  Used fuzzy matching techniques to find targeted entities.
  Participated in communicating findings to stakeholders using visualization tools.
- **Service Desk Agent**, Hewlett-Packard - Qatar   Apr – Aug 2011
  Troubleshooted IP Telephony phones & managed web mail server issues and user accounts
  Remotely downloaded desktop software, and troubleshooted Enterprise Resource Planning (ERP) system
- **Intern**, Al-Jazeera Network - Qatar   Jul – Aug 2009
  Configured IP Telephone administration, local area implementation
  Actively participated in cover switching, cabling and server farm migration preparation

PROFESSIONAL MEMBERSHIP

Member, Association for Computing Machinery (ACM) and ACM Special Interest Group on Information
Retrieval (SIGIR)