

Ashraf Abdul | PhD Candidate

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Profile

I am currently pursuing doctoral research to develop explainable decision making tools and techniques using Machine Learning and theories from Human Computer Interaction. My broader research interests include applied machine learning, opportunistic social matching and information security.

In the past, I have worked on web application development, content delivery network based solutions for web performance optimization, web property security and software engineering processes for small and medium enterprises.

Education

Jan 2017 – Jan 2021

SINGAPORE

PhD Computer Science, National University of Singapore

- Area: Explainable Artificial Intelligence
- Advisors: Brian Y. Lim and Mohan S. Kankanhalli

Aug 2014 – Jun 2016

SINGAPORE

Master of Computing, National University of Singapore

- Thesis: Enabling Cyber Physical Social Networks through Opportunistic Intent Based Matching on the Web
- Advisors: Mohan S. Kankanhalli and Christian von der Weth

Aug 2005 – May 2009

HYDERABAD, INDIA

Bachelor of Engineering, Osmania University

- Area: Information Technology
 - Advisor: A. A. Moiz Qyser
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Work History

Dec 2014 – Jan 2017

SINGAPORE

Research Assistant, Sensor-enhanced Social Media Centre, National University of Singapore

- Investigated methods to enable opportunistic social matching across World Wide Web and geographic locations.
- Translated research into a TRL-5 prototype called OneSpace and lead the commercialization effort.
- Developed web crawlers in python, designed and maintained SQL and NoSQL databases. Supervised undergraduate interns.

Aug 2011 – Jul 2014

BANGALORE, INDIA

Solutions Architect, Akamai Technologies

- Consulted on technical pre-sales, solution architecture and integrated services for big banner Media and Ecommerce organizations in the EMEA region.
- Trained and mentored new service delivery hires on fundamental internet protocols, Akamai Media Acceleration and Web Security solutions as a Subject Matter Expert.
- Onsite Akamai Technical Operations Center Lead, London Olympics 2012.

- Developed proof-of-concept automated scheduling engine to handle emergency service requests that reduced response times and improved customer satisfaction. Tool was funded and later adopted company wide.

Jun 2009 – Jul 2011

HYDERABAD, INDIA

Systems Engineer, Infosys

- Developed various web portal components and integrated Short Messaging Service gateway for large e-governance project using Java, WebSphere, SQL and Solr.
- Automated form based e-government workflows using Adobe Form Designer and LiveCycle Business Process Automation.
- Trained new team members on portal components and system architecture as the owner for onboarding.

Publications

Explainable Artificial Intelligence

1. Danding Wang, Qian Yang, **Ashraf Abdul**, and Brian Y. Lim. 2019. Designing Theory-Driven User-Centric Explainable AI. **(accepted to)** In *Proceedings of the 2019 CHI Conference on Human Factors in Computing Systems (CHI '19)*.
2. **Ashraf Abdul**, Jo Vermeulen, Danding Wang, Brian Y. Lim, and Mohan Kankanhalli. 2018. Trends and Trajectories for Explainable, Accountable and Intelligible Systems: An HCI Research Agenda. In *Proceedings of the 2018 CHI Conference on Human Factors in Computing Systems (CHI '18)*. ACM, New York, NY, USA, Paper 582, 18 pages. DOI: <https://doi.org/10.1145/3173574.3174156>

Opportunistic Social Matching

1. Christian von der Weth, **Ashraf Abdul**, Abhinav R. Kashyap, and Mohan Kankanhalli. 2019. CloseUp – A Community-Driven Live Online Search Engine. **(accepted to)** *ACM Transactions on Internet Technology* 19.
2. Christian von der Weth, **Ashraf Abdul**, and Mohan Kankanhalli. 2017. Cyber-Physical Social Networks. *ACM Transactions on Internet Technology* 17, 2, Article 17 (March 2017), 25 pages. DOI: <https://doi.org/10.1145/2996186>

Software Engineering

1. Moiz Qyser A A,S Ramachandram, **Ashraf Abdul** "A Hub Based Lean Software Process Model for Small and Medium Enterprises" 4th Malaysian Software Engineering Conference 08(MySEC08) [Best Paper Award]
2. Moiz Qyser A. A., S. Ramachandram and **Ashraf Abdul**, "An evolutionary software product development process for small and medium enterprises (SMEs)," *2008 4th International Conference on Emerging Technologies*, Rawalpindi, 2008, pp. 298-303. DOI: <https://doi.org/10.1109/ICET.2008.4777518>

Selected Projects

Fine Grained Access Control for Chrome Extensions

Implemented a proof of concept fine grained access control mechanism for Chrome Extensions by injecting web domain level access control hooks into the Chrome Security Module. This is based on the principle of defense in depth and is used to supplement the Chrome store curation process to prevent extension-based exploits.

Music Recommendation Chatbot

Developed a web-based dialogue supporting chatbot using Artificial Intelligence Markup Language and Java to recommend songs based on user mood and preferences. The bot utilizes the Musicoverly and YouTube APIs in combination with the ALICE brain to make the conversation diverse and interesting.

PlaceR: Place Recommendation Engine based on Twitter

Developed a recommendation engine for venues such as restaurants, hotels and entertainment avenues by profiling user interest from a user's Twitter stream using text processing and matrix factorization methods.

Teaching Assistantship

School of Computing, National University of Singapore

Fall 2018/2019

CS4249 Theories and Phenomena of Human-Computer Interaction

Instructor: Prof. Brian Y. Lim

Spring 2019

CS2103 Software Engineering

Instructors: Dr. Henry Chia Wai Kit and Dr Soo Yuen Jien

Certifications

Oct 2016

Lean Launchpad | Commercializing Technological Innovations by NUS Enterprise

Jun 2014

Certified Information Systems Security Professional, License 474627 by ISC2

Mar 2013

Certified Ethical Hacker, License ECC97348550927 by EC Council

Awards

May 2014

Master Solutions Architect award for excellence in technical consulting at Akamai

Jul 2011

Best Rookie award for outstanding contribution by new graduate hires at Infosys

Service

2018

Reviewer: IEEE MMC 2018, ACM CHI 2019

Sep 2015 – Sep 2016

Graduate Student Representative for the Master's Program, School of Computing, National University of Singapore

Mar 2008 – Mar 2009

Chief Coordinator, Entrepreneurship Cell, Muffakham Jah College, Osmania University

Mar 2008 – Mar 2009

Chairman, ACM Student Chapter, Muffakham Jah College, Osmania University