

Ibrahim Sabek

CONTACT INFORMATION

200 Union St. SE, Office 2-208 EE/CS Building
University of Minnesota - Twin Cities
Minneapolis, MN, 55455, USA

Mobile: (+1) 651-604-7295
E-mail: sabek@cs.umn.edu
WWW: <http://www.cs.umn.edu/~sabek/>

EDUCATION

University of Minnesota - Twin Cities, Computer Science and Engineering Department, USA

PhD, Computer Science

August, 2014 - Present

- Dissertation Topic: Database Systems.
- Advisor: Prof. Mohamed Mokbel.

Alexandria University, Computer and Systems Engineering Department, Egypt

M.Sc, Computer and Systems Engineering

March, 2012 - July, 2014

- Overall grade: Distinction with Degree of Honor (GPA: 3.95/4.0).
- Thesis: “Intelligent Hybrid Man-Machine Translation Evaluation”.
- Advisors: Prof. Nagwa El-Makky and Prof. Soheir Bassiouny.

B.Sc, Computer and Systems Engineering

September, 2005 - July, 2010

- Overall grade: Distinction with Degree of Honor (GPA: 3.91/4.0).
- Thesis: “Wiki-Rec: Semantic-based Recommendation Using Wikipedia As an Ontology”.
- Advisors: Prof. Nagwa El-Makky and Prof. Noha A. Yousri.

RESEARCH EXPERIENCE

University of Minnesota, Computer Science and Engineering Department, MN, USA

Research Assistant

August, 2014 - Present

- Database Systems Projects: Designing, implementing and evaluating innovative research ideas in the areas of Sptio-temporal Databases, Geographical Information Systems (GIS) and Location-based Services. These research projects mainly provide value-added support for emerging data-intensive applications and scalable systems.

Umm Al-Qura University, KACST GIS Technology Innovation Center, Mecca, Saudia Arabia

Research Assistant

January, 2014 - July, 2014

- HajjSense and Faheem projects: Designed, implemented and evaluated the data collection part from either sensor networks or people-centric sensing devices, e.g., GPS-equipped smartphones, or through voluntary people. Examples of collected data include network traffic data, trajectories of moving objects (e.g., vehicles), and data measurements (e.g., temperature and air quality). Technologies like participatory sensing, energy-efficient designs and in-network processing were utilized towards developing innovative, efficient, and accurate data collection solutions.

Egypt-Japan University of Science and Technology, Wireless Research Group, Egypt

Research Assistant

September, 2011 - December, 2013

- Nuzzer Project: Designed, implemented and evaluated accurate multi-entity tracking solutions that use a human’s effect on the Radio Frequency (RF) in WiFi environments to infer the human’s presence and location. This work has been done by investigating recent wireless technologies (e.g. 802.11n) combined with solid machine learning techniques. As a result, we published papers in **IEEE TMC’14**, **IEEE WCNC’13** and **IEEE GLOBECOM’12**, a demo in **WINTech’12**.

Vimov LLC, Alexandria, Egypt

Research and Software Engineer

January, 2013 - June, 2013

- News Biter Project: Designed, implemented and evaluated a novel hybrid Collaborative via Content recommendation technique that satisfies users needs of both news relevance and time constraints. The resulting technique has been integrated in the released iOS application “**News Biter**” on the Apple app store. Also, a **US Patent** has been submitted, since June 2013.

¹Last updated at August 15th, 2014.

Microsoft Research, Advanced Technology Lab, Cairo, Egypt

External Research Collaborator

June, 2011 - June, 2012

- CTP Project: Designed, implemented and evaluated a platform that integrates automated evaluation of translations with human judgments to produce accurate quality estimation of large-scale translations. The resulting platform has been integrated as a **web service for Microsoft Translator Hub** that serves requests for public translation and private ones. It allows the community managers, translators and reviewers to collect content and adjust the translations with the assistance of professional translators.

Microsoft Research, Microsoft Innovation Center, Cairo, Egypt

Research Assistant

October, 2010 - February, 2011

- i2i-3D Project: Customized the i2i technology - introduced by Microsoft Research Cambridge - on Windows Phone 7 (WP7) via efficient machine learning and pattern recognition techniques to provide privacy call mode services for Microsoft mobile platforms. The main idea is based on bilayer foreground and background image segmentation which has many challenges in terms of accuracy and efficiency to be applied on embedded systems due to their limited capabilities.

Alexandria University, Computer and Systems Engineering Department, Alexandria, Egypt

Undergraduate Research Assistant

June, 2009 - June, 2010

- Wiki-Rec Project: Designed, implemented and evaluated a novel approach to construct an ontology from Wikipedia categories and articles graphs to solve the problems of using traditional ontologies for the text analysis in text-based recommendation systems. Also, proposed an efficient structure for users profiles to integrate smoothly with the built ontology. As a result, we published a paper in **ISDA'10** with a **Best Paper Runner-Up Award**.

JOURNAL
PUBLICATIONS

Ibrahim Sabek and Moustafa Youssef, “*MonoStream: A Minimal-Hardware High Accuracy Device-free WLAN Localization System*”, **Under Review** at IEEE Journal on Selected Areas in Communications (Location-Awareness For Radios and Networks), 2015.

Ibrahim Sabek, Moustafa Youssef and Athanasios V. Vasilakos, “*ACE: An Accurate and Efficient Multi-Entity Device-Free WLAN Localization System*”, IEEE Transactions on Mobile Computing (TMC), Volume: PP, Issue: 99, 25 April, 2014.

CONFERENCE
PUBLICATIONS

Heba Abdel-Nasser, Reham Samir, **Ibrahim Sabek** and Moustafa Youssef, “*MonoPHY: Mono-Stream-based Device-free WLAN Localization via Physical Layer Information*”, in IEEE Wireless Communications and Networking Conference (WCNC 2013), Shanghai, China, 7-10 April, 2013.

Ibrahim Sabek and Moustafa Youssef, “*Multi-entity Device-Free WLAN Localization*”, in IEEE Global Communications Conference (GlobeCom 2012), California, USA, 3-7 December, 2012.

Ahmed Elgohary, Hussien Nomier, **Ibrahim Sabek**, Mohamed Samir, Moustafa Badwi and Noha A. Yousri., “*Wiki-Rec : A Semantic-based Recommender System using Wikipedia as an Ontology*”. in Tenth International Conference on Intelligent Systems Design and Applications (ISDA 2010), Cairo, Egypt, 2010. ²

REFEREED
POSTERS
AND DEMOS

Ibrahim Sabek, Heba Abdel-Nasser, Reham Samir and Moustafa Youssef, “*MonoPHY Demo: Demonstrating Mono-Stream-based Device-Free WLAN Localization via Physical Layer Information*”, IEEE Wireless Communications and Networking Conference (WCNC 2013), Shanghai, China, 7-10 April, 2013 (**Invited Demo**).

Ibrahim Sabek and Moustafa Youssef, “*SPOT: Multi-entity Device-Free WLAN Localization*”, in The Seventh ACM International Workshop on Wireless Network Testbeds, Experimental Evaluation and Characterization (WiNTECH 2012) in conjunction with ACM MobiCom 2012, Istanbul, Turkey, 2012 (**Poster**).

Ibrahim Sabek and Moustafa Youssef, “*SPOT Demo: Demonstrating Multi-entity Device-Free WLAN Localization*”, in The Seventh ACM International Workshop on Wireless Network Testbeds, Experimental Evaluation and Characterization (WiNTECH 2012) in conjunction with ACM MobiCom 2012, Istanbul, Turkey, 2012 (**Demo**).

²Authors of this paper are in alphabetical order.

TEACHING EXPERIENCE	<p>University of Minnesota, Computer Science and Engineering Department, MN, USA <i>Teaching Assistant</i> August, 2014 - Present</p> <p>Duties included shared responsibility for recitations, lab tutorials, homework assignments, grading and office hours.</p> <ul style="list-style-type: none"> • CSCI-4707 Practice of Database Systems (Fall 2014). <p>Alexandria University, Computer and Systems Engineering Department, Alexandria, Egypt <i>Teaching Assistant/Lecturer</i> August, 2010 - July, 2014</p> <p>Duties included shared responsibility for lectures, exams, homework assignments, grading, office hours and leading weekly computer lab exercises.</p> <ul style="list-style-type: none"> • CS-121 Programming using Java and C/C++ (Fall 2010, Fall 2012, Fall 2013). • CS-223 Advanced Data Structures (Spring 2010, Spring 2012, Spring 2013). • CS-221 Object-Oriented Programming (Fall 2010). • CS-322 Database Systems (Spring 2012, Spring 2013). • CS-E41 Special Topics on Information Systems (Fall 2010, Fall 2012, Fall 2013). • CS-E42 Pattern Recognition and Applications (Fall 2010). • CS-E43 Introduction to Computer Vision (Fall 2012).
EMPLOYMENT EXPERIENCE	<p>POET-Egypt LLC, Alexandria, Egypt <i>Software Development Engineer</i> July, 2009 - September, 2009</p> <ul style="list-style-type: none"> • Designed, developed and tested a plug-in for agile software process using scrum on Atlassian-Jira bug tracing system with JIRA API and Apache Velocity. The plug-in has been used to serve the development of the X-solutions product introduced by POET AG, Germany. <p>Alexandria ACM Chapter, Alexandria, Egypt <i>Junior Web Developer</i> July, 2008 - September, 2008</p> <ul style="list-style-type: none"> • Designed, developed and tested a website to manage registered students information for the Alexandria branch of ACM. This task includes developing with different web tools such as HTML, AJAX, JavaScript and Flex.
HONORS AND AWARDS	<p>Graduate School Fellowship from University of Minnesota - Twin Cities, 2014.</p> <p>Student Travel Award to attend IEEE WCNC'13 and IEEE ISDA'10.</p> <p>Best Paper Runner-Up Award in The International Conference on Intelligent Systems Design and Applications (ISDA), 2010.</p> <p>Best Bachelor's Thesis Award from Faculty of Engineering, Alexandria University, 2010.</p> <p>Excellence Certificate of Honor from Faculty of Engineering, Alexandria University, 2006 - 2010.</p> <p>Best Undergraduate Research Award from Exchange of Students program between IAESTE Germany and Alexandria University Egypt, 2009.</p> <p>Semi-finalist in Microsoft Imagine Cup local competition, Cairo, Egypt, 2009.</p>
PROFESSIONAL SERVICES AND ACTIVITES	<ul style="list-style-type: none"> • Invited Reviewer for IEEE TMC'12-'14, IEEE TVT'12-'14, IEEE Signal Processing'13. • Trainer in Machine Learning summer program, Alexandria ACM Chapter, 2013. • Organizer in Start Menu Day, Alexandria University, 2013. • Oracle CS club leader, Alexandria University, 2012 - 2013.
TECHNICAL SKILLS	<ul style="list-style-type: none"> • Languages: Java, C/C++, CSharp, Perl, PHP, Python, Matlab, JavaScript, SQL. • Libraries and Frameworks: Hadoop, SpatialHadoop, MongoDB, Infer.Net, Weka, libDAI, WP7. • Statistical Packages: Jama, R; Java and C statistical libraries.
TALKS AND PRESENTATIONS	<p>MonoPHY: Mono-Stream-based Device-free WLAN Localization via Physical Layer Information, IEEE WCNC, Shanghai, China, 2013.</p> <p>Stability Analysis in a Cognitive Radio System with Cooperative Beamforming, IEEE WCNC, Shanghai, China, 2013.</p> <p>Introduction to Machine Learning - The Brilliance of Science, ACM Alexandria Chapter</p>

Machine Learning Day, Bibliotheca Alexandrina, 2013.

Collaborative Machine Translation Evaluation, Alexandria University Research Day, 2013.

REFERENCES

Prof. Mohamed Mokbel

Associate Professor
Dept. of Computer Science and Engineering
University of Minnesota - Twin Cities
Minnesota, USA
E-mail: mokbel@cs.umn.edu

Prof. Anas Basalamah

Assistant Professor
Dept. of Computer Engineering
Umm Al-Qura University
Mecca, Saudia Arabia
E-mail: ambasalamah@uqu.edu.sa

Dr. Mona Habib

Senior/Research Program Manager
Microsoft Corporation
Bellevue, Washington, USA
E-mail: mona.habib@microsoft.com

Prof. Moustafa Youssef

Associate Professor
Dept. of Computer Science and Engineering
Egypt-Japan Uni. of Sci. and Tech
Alexandria, Egypt
E-mail: moustafa.youssef@ejust.edu.eg

Prof. Nagwa El-makky

Professor
Dept. of Computer and Systems Engineering
Alexandria University
Alexandria, Egypt
E-mail: nagwamakky@alexu.edu.eg

Prof. Noha A. Yousri

Associate Professor
Weill Cornell Medical College & Alex. Univ.
Al Rayyan, Qatar
E-mail: nay2005@qatar-med.cornell.edu