

# CURRICULUM VITAE ET STUDIORUM

## Ahmed Ghozia

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## PERSONAL INFORMATION

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Name: Ahmed  
Surname: Ghozia  
Birth Date: 11 August 1981  
Birth Place: Minuf, Egypt  
Citizenship: Egyptian

### Office Address

Computer Science and Engineering Department  
Faculty of electronic engineering  
Menoufia University  
Almenoufya, Minuf, Egypt  
Phone: +2 01096173626  
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### Home Address

Alimaan street 2  
Minuf, Almenoufya, Egypt  
Mobile Phone: +2 01096173626

### Languages

Arabic (mother-tongue)  
English  
Italian

## AFFILIATION

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- 12/2003- 01/2008 Memeber of The Computer Science and Engineering Department, Faculty of Electronic Engineering, Menoufia University, Egypt.
- 02/2008 - 12/2011 Member of the Artificial Intelligence and Robotics Laboratory, Electronics and Information Department, Politecnico di Milano, Italy.
- 03/2012 - Now Memeber of The Computer Science and Engineering Department, Faculty of Electronic Engineering, Menoufia University, Egypt.

## EDUCATION

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- 09/1995–07/1998 High School à Mathematics Scientific “Minuf Military High School”, Minuf, Egypt.
- 09/1999–08/2003 Bachelore in Computer Science and Engineering at Menoufia University, Faculty of Electronic Enginerring, Minuf, Egypt.
- 2006-2007 Master of Science degree in Computer Science and Engineering at Menoufia University, Faculty of Electronic Enginerring, Minuf, Egypt.

**Thesis title:** *Improved Web Search Based on Probabilistic Technique.*

**Advisor:** Prof. I. Zakaria Morsi.

**Advisor:** Dr. Hoda. Saleh Sorour.

**Co-Advisor:** Dr. A. Aboshosha.

## ACADEMIC POSITIONS AND AFFILIATIONS

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- 12/2003-01/2008 Teaching and Research Assistant at the Computer Science and Engineering Department, Faculty of electronic engineering, Menoufia University.
- 01/2008- 12/2011 PhD student in Computer Science at Dipartimento di Elettronica e Informazione at Politecnico di Milano, Milano, Italy.
- 10/2012 - Now PhD student at the Computer Science and Engineering Department, Faculty of electronic engineering, Menoufia University.

## TEACHING ACTIVITIES

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### TEACHING ASSISTANTSHIP

- 10/2012–12/2012 Teaching assistant in the course of Dr. G. Attya and Dr. M. Tolba “Computers Operation” in the undergraduate program of Electronic Engineering, Faculty of Electronic Engineering, Menoufia University, Minuf, Egypt.
- 10/2012–12/2012 Teaching assistant in the course of Dr. M. Elrasheedy “Compiler Design” in the undergraduate program of Electronic Engineering, Faculty of Electronic Engineering, Menoufia University, Minuf, Egypt.
- 07/2012–09/2012 Instructor for the course of “Teaching Programming using Java” a training program for Computer science and Engineering students, Faculty of Electronic Engineering, Menoufia University, Minuf, Egypt.
- 10/2007–12/2007 Teaching assistant in the course of prof. N. Elfishawy “Fundamentals of Digital Logic” in the undergraduate program of Electronic Engineering, Faculty of Electronic Engineering, Menoufia University, Minuf, Egypt.
- 10/2007–12/2007 Teaching assistant in the course of Dr. O. Salah “Database Systems” in the undergraduate program of Computer Science and Engineering, Faculty of Electronic Engineering, Menoufia University, Minuf, Egypt.
- 10/2007–12/2007 Teaching assistant in the course of Dr. M. Berbar “Introduction to Computer Systems” in the undergraduate program of Electronic Engineering, Faculty of Electronic Engineering, Menoufia University, Minuf, Egypt.
- 10/2007–12/2007 Teaching assistant in the course of Dr. H. Sorour “Introduction to Computer Systems” in the undergraduate program of Electronic Engineering, Faculty of Electronic Engineering, Menoufia University, Minuf, Egypt.
- 10/2006–12/2006 Teaching assistant in the course of Dr. M. Mousa “Database Systems” in the undergraduate program of Computer Science and Engineering, Faculty of Electronic Engineering, Menoufia University, Minuf, Egypt.
- 09/2006–12/2006 Teaching assistant in the course of Dr. H. Sorour “Compiler Design” in the undergraduate program of Computer Science and Engineering, Faculty of Electronic Engineering, Menoufia University, Minuf, Egypt.
- 10/2005–12/2005 Teaching assistant in the course of Dr. M. Badawy “Database Systems” in the undergraduate program of Computer Science and Engineering, Faculty of Electronic Engineering, Menoufia University, Minuf, Egypt.

- 02/2005–05/2005 Teaching assistant in the course of Dr. G. Mahrous “Personal PC Hardware interfacing” in the undergraduate program of Computer Science and Engineering, Faculty of Electronic Engineering, Menoufia University, Minuf, Egypt.
- 02/2004–06/2004 Teaching assistant in the course of Dr. M. Badawy “Database Systems” in the undergraduate program of Computer Science and Engineering, Faculty of Electronic Engineering, Menoufia University, Minuf, Egypt.
- 02/2004–05/2004 Teaching assistant in the course of Dr. S. Shaban “Compiler Design” in the undergraduate program of Computer Science and Engineering, Faculty of Electronic Engineering, Menoufia University, Minuf, Egypt.
- 02/2004–05/2004 Teaching assistant in the course of Dr. M. Shoala “Computer Architecture Software/Hardware” in the undergraduate program of Computer Science and Engineering, Faculty of Electronic Engineering, Menoufia University, Minuf, Egypt.
- 09/2004–12/2004 Teaching assistant in the course of Dr. M. Badway “Advanced Database Systems” in the undergraduate program of Computer Science and Engineering, Faculty of Electronic Engineering, Menoufia University, Minuf, Egypt.
- 09/2004–12/2004 Teaching assistant in the course of Dr. S. Shaban “Algorithms and Data Structures, using Java” in the undergraduate program of Electronic Engineering, Faculty of Electronic Engineering, Menoufia University, Minuf, Egypt.
- 09/2004–12/2004 Teaching assistant in the course of Dr. H. Kelash “Personal PC Hardware interfacing” in the undergraduate program of Computer Science and Engineering, Faculty of Electronic Engineering, Menoufia University, Minuf, Egypt.

## SCIENTIFIC ACTIVITIES

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### CONFERENCE PARTICIPATION

- 4<sup>th</sup> Workshop on the Future of Web Search: Semantic Search, Ibiza, Spain, April 4-5, 2009.
- Search Goes Mobile Workshop, Bertinoro (Forli-Cesena) Italy, April 28-30, 2008.
- 3<sup>rd</sup> Workshop on the Future of Web Search: Beyond Text, Andorra, April 4-5, 2008.
- 2<sup>nd</sup> Workshop on the Future of Web Search, Bertinoro, Italy, June 18-20, 2007.
- The Role of Research in the Information Technology Industry Workshop, Bertinoro, Italy, June 20, 2007.

### SCHOOL PARTICIPATION

- 3<sup>rd</sup> International PhD School on Advanced Retrieval and Web Mining, Varenna Como, Italy, August 27-31, 2007.
- Summer school of Multimedia Semantics 2008, MAICH, Crete-Greece, 1 - 5 September 2008.

- 7<sup>th</sup> edition of the International Summer School on Software Engineering, Salerno-Italy 2008.
- 3<sup>rd</sup> International PhD School on Advanced Retrieval and Web Mining, Bertinoro, Italy, August 31 - September 4, 2009.

## PROFESSIONAL ACTIVITIES

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2009                      Design and Development of Artificial Intelligence and Robotics Laboratory official website - AIRLab.

2009                      Design and Development of The Italian Institute of Technology at Politecnico di Milano website - IIT Politecnico Di Milano.

06/2011 - 02/2012    Part time Java Software Engineer at Sol-Tec.

## SKILLS AND ABILITIES

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Web Search and Information Retrieval Libraries: Heritrix, Nutch, Rainbow and Google Search API.

Programming language: Assembly, C, Java, HTML, Matlab, SQL.

Operating System: Linux, Windows.

Integrated Development Environments: Eclipse, Jbuilder.

## CURRENT RESEARCH INTERESTS

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### CONTENT BASED VIDEO WEB SEARCH, 2008 - NOW

The vast amount of videos uploaded to youtube, truveo, blinkx brings a complex challenge to researchers from diverse areas. It is a challenge because search engines, up to now, understand the video file by its surrounding text, not from its real content, the video itself. It is a complex task because it includes participation from different research areas: image processing, machine learning, object and scene recognition, information retrieval, web search and human computer interaction.

### USER EQUILIBRIUM ANALYSIS IN CONGESTED NETWORKS, 2008-2009

An analysis of transportation networks requires mathematical tools capable of managing all information related to the interaction between demand and supply and solving the complex problems developed by this interaction. The features that must be taken into account concern both the supply and the demand characteristics. Supply first is made up by three elements: the graph, the flow propagation model and the congestion model. Transport demand characterizes mobility with respect to different choices of travel (e.g., frequency and reasons of trips, origins and destinations, modal split, paths). Except the very particular case of non-congested networks, route choice depends on congestion giving rise to the interaction between demand and supply. If only route choice depends on congestion a rigid demand

assignment model is considered. If other characteristics of demand depend on congestion an elastic demand assignment model must be considered.

The contribution deals with deterministic and stochastic user equilibrium (DUE and SUE respectively) two well known problems in the transportation field where the transportation demand has to be assigned to the network (supply in transportation terminology) according to single user satisfaction. In order to solve these problems a modified version of the ant colony system is proposed making evolving ACS from discrete to continuous optimization. The ant colony heuristic is adapted theoretically in order to take into account all aspects characterizing the transportation problem: multiple ODs (Origin-Destination), link congestion, non-separable cost link functions, elasticity of demand, multi classes in demand and different user cost models including stochastic cost perception. Applications to four different networks, including the non-separable costs case, are finally reported.

## FOCUSED CRAWLERS FOR WEB SEARCH, 2006-2007

The rapid growth of the World-Wide-Web made it difficult for general purpose search engines, e.g. Google and Yahoo, to retrieve most of the relevant results in response to the user queries. On the other side, vertical web search engines are built to serve users looking for precise information in a specific topic and not anything else. A vertical search engine specialized in a specific topic became vital. Building vertical search engines is accomplished by the help of a focused crawler. A focused crawler is an agent that traverses the web selecting out relevant pages to a predefined topic and neglecting those out of concern. The focused crawler is guided toward those relevant pages through a crawling strategy. As a part of the crawler, the crawling strategy plays the role of the decision maker that determines whether to download the web page or not.

A new crawling strategy is presented. The aim of this strategy is keeping the crawler focused to the user interests toward the topic. Through a supervised learning process, we build a model that describes the Web pages features that distinguish, from the user viewpoint, relevant Web documents from those that are irrelevant. A randomly selected set of web pages that belong to the topic of concern is rendered to the user who will determine which pages are relevant and which are irrelevant. The attributes values of all the rendered web pages are estimated and we will distinguish between those values that appeared in relevant web pages and those that appeared in irrelevant web pages.

The deduced information are fed to a Bayesian iterative modeling mechanism that would guide the crawler toward the most relevant web pages. The performance of the Bayesian Object Based (BOB) crawling strategy is compared with that of the well known naive bayes crawling strategy. The harvest rate for different practical vertical search experiments that cover different topics are compared to investigate the performance of both the crawlers.

## PUBLICATIONS

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### PAPERS IN PROCEEDINGS OF INTERNATIONAL CONFERENCES

- C1. Matteo Matteucci, Lorenzo Mussone, Ahmed Ghozia. Transportation network user equilibrium assignment by ant colony systems with a variable trail decay coefficient. In proceedings of 12th IFAC Symposium on Control in Transportation Systems (CTS09) pp. 430-427, September, 2009.

## PAPERS PRESENTED IN NATIONAL CONFERENCES

- G1. Ghozia, A.; Sorour, H.; Aboshosha, A.; , "Improved focused crawling using bayesian object based approach," Radio Science Conference, 2008. NRSC 2008. National , pp.1-8, 18-20 March 2008.

## INTERNAL REPORTS

- I1. A. Ghozia. Ant colony systems for transportation user equilibrium analysis in congested networks, Internal Report N. 2009.71, Department of Electronics and Information - Politecnico di Milano, Milano, Italia, 2009.

## THESES

- J1. A.Ghozia, Improved Web Search Based on Probabilistic Technique. M.Sc Thesis, Computer Science and Engineering Department, Faculty of Electronic Engineering, Menoufia University.