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Michael Nashaat Nawar Ibrahim

Objective

My objective is to find a challenging Phd opportunity from which I will gain research experience and have the opportunity to produce innovative work.

Education

Masters in Computer Engineering (Cairo University - Faculty of Engineering), expected completion date February 2015
Got an overall GPA of 3.7 on 9 courses, currently finishing my thesis. Sep 2012-Current

Bachelor in Computer Engineering (Cairo University - Faculty of Engineering)
Got an overall score of 91.6% (ranked the **second** on my class out of 68 students) May 2012

Research Papers & Research Projects

- Fast and Robust Arabic Error Correction System, the EMNLP 2014 (Empirical Methods in Natural Language Processing) Workshop on Arabic Natural Language Processing, Doha, Qatar, Michael Nawar and Moheb Ragheb.
- Multi-heuristic Based Algorithm for Test Case Prioritization, ICCSA 2014 (International Conference on Computational Science and Applications), Guimaraes, Portugal, Michael Nawar and Moheb Ragheb.
- Improving Arabic Tokenization and POS Tagging Using Morphological Analyzer, AMLTA 2014 (Advanced Machine Learning Technologies and Applications), Cairo Egypt, Michael Nawar.
- A Bayesian Approach to Arrival Rate Forecasting for Inhomogeneous Poisson Processes for Mobile Calls, ISF 2013 (International Symposium of Forecasting), Seoul, South Korea, Michael Nawar, Amir Atiya, Mohamed Saleh and Khaled Elsayed. (Extended Abstract)
- Bel-Arabi: Advanced Arabic Grammar Analyzer, 2014 International Conference on Arabic and Islamic Studies, Dubai, UAE, Michael Nawar Ibrahim, Mahmoud Mahmoud, and Dina Elreedy. (to appear in the IJSSH journal)
- A Bayesian Approach to Arrival Rate Forecasting for the Nonhomogeneous Poisson Processes, with Application to Mobile Call Estimation, submitted to the journal of Forecasting, Michael Nawar Ibrahim, Amir Atiya, and Hatem Fayed.
- Analytical Solutions to the Dynamic Pricing Problem for Time-Normalized Revenue, submitted to European Journal of Operations Research, Michael Nawar Ibrahim and Amir Atiya.
- I am working in a research project (from October 2012 to January 2015) funded by NTRA (National Telecom Regulatory Authority). This project aimed to develop new models for dynamic pricing of mobile calls and data services. In this project, I worked on Bayesian parameter estimation for nonhomogeneous Poisson processes to forecast the arrivals of mobile calls. I reduced the problem to an accurate closed form approximation. Typically Bayesian estimation problems lead to multi-integral formulas, and this is one of the few instances where a closed form solution is obtained. Moreover, I proposed a very accurate approximation to the problem of the moments of the multivariate normal density. This is a classic mathematical problem whose solution methods have exponential computation loads. **My approach is the first approach that obtains a computationally feasible solution for large dimension**.
- As part of my master thesis, I worked on applying dynamic pricing techniques to nonperishable assets with stochastic demand by maximizing the revenue per unit time. Assuming that demand follows a Poisson process with an arrival rate that varies according to the price. I derived a solution for the general case in the form of an ODE (Ordinary Differential Equation), which is computationally effective compared to current solutions to the problem. Most other works that consider stochastic demand led to computationally demanding solutions often involving

complicated recursive relations for the value function. Finally, I used the general case solution to derive a closed form solution for many of the typical demand price functions.

Work Experience

- **Sep 2012– Current:** Teaching Assistant in Faculty of Engineering, Cairo University.
- **Jul – Sep 2011:** CMIC (Cairo Microsoft Innovation Center) training for 8 weeks.
- **Jul – Sep 2010:** ITIDA (Information Technology Industry Development Agency) training for 8 weeks in PLC (Programmable Logic Controller).
- **Jul – Sep 2009:** Faculty of Engineering summer training on C#, Java, and Assembly.

Awards

- Won the best project award, in the EED (Egyptian Engineering Day), in the Computer engineering category, for the graduation project "Bel-Araby Advanced Arabic Analyzer" in June 2012
- Ranked the 11th on Intel Accelerate Your Code parallel programming Competition (Awarded a Netbook) in January 2012.

Technical Skills

- Programming languages: C++, C#, Perl, Python, java, Matlab, Mathematica, R, VBA.
- Web Programming: HTML, CSS, JavaScript, ASP, Silver Light.
- Database Programming: SQL Server with C#, XQuery using Java and C#, LINQ using C#.
- Case Tools: Rational Rose, MS Visio, Argo UML.
- Development Tools: Microsoft Visual Studio.Net, Intel Parallel Studio (C++), Microsoft SQL Server, Net Beans IDE, XCode IDE, Math Works, Mathematica.
- Conceptual Knowledge: Deep understanding of Object Oriented concepts, Database design concepts and software engineering concepts.

Extra-Curricular Activities

- Head of computer club of IEEE Cairo University Student Branch (2010 – 2012) - Organized meetings to develop a strategy for the Computer Club; Lead groups of youth; Organized online algorithm competition and presented the results to computer engineering students.
- Head of Youth Development program, technical section (computer section) (2010 – 2012) - Lead a group of youth to present sessions to high school students about technical computer topics.
- Member of IEEE Cairo University Student Branch (2009-2010) - Attended meetings to develop a strategy for the Computer Club and Helped in preparing sessions for student in IEEE Cairo University.

Functional skills

- **Communication skills:** Presenter in many events held by the IEEE-CUSB computer club, the Ninth Computer Engineering Department Student Conference (Power of IT).
- **Leadership skills:** Led and supervised many teams to accomplish projects during five semesters; and many activities done by IEEE-CUSB computer club and Youth Development technical section.

Language Skills

- Arabic – Maternal language
- English and French – Very Good: Fluent in written and verbal skills.
- German – Fair - still learning

References:

- Furnished Upon Request