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# Education

**Faculty of Computer and Information Science, Ain Shams University**  **Cairo, Egypt — 2011-2015.**

 **Average grade (Excellent along with Honours degree)(4th on my class)(2nd on Computer Systems department)**

**GSEC 409.5 out of 410 (99.88%) *1st On Obour Administration***

# Qualifications & Skills

* **RSDE at Microsoft ATLC (2015 August-present)**
* **Summer Internship at Microsoft ATLC (2014 July-August)**
* **Programming Languages:** C/C++, C#, objective-C, Java, HTML5, asp.net ajax, assembly, Prolog, familiar with(Python).
* **Concepts:** OOP, Algorithms Design and Analysis, UML Modeling, Data Structures, 3D Data visualization (open GL), Graph Theory, Probability, Structure Programming, Automata, Operating systems, Computer architecture, Networking.
* **Technologies:** Visual Studio, SFML, eclipse, Codeblocks, Matlab, Ubuntu OS.
* **Soft-Skills:** Communication, Teamwork, Leadership and Brainstorming, Problem Solving, Creative & Opposite Thinking.
* **Spoken Languages:** Arabic (Native), English (Very Good) and Germany (Poor).

# Projects

[**CO-SWARM’15**](https://github.com/hoda-gharieb/CO-SWARM-15)

**Dec 2014 - June 2015**

CO-Swarm is a Multi-Robot System (MRS) used for solving one of hardest real life problems which is "Area Exploration" based on the invented bio-inspired techniques. This system implements some of the well-known approaches like Frontier- Based exploration enhanced with shortest-path techniques that work on static environments like (A\*) algorithm and dynamic environments as well like (D\* Lite). Language Used: C++

[**DataHiding-Stegno-GA**](https://github.com/hoda-gharieb/DataHiding-Stegno-GA)

**Dec 2013 - Jan 2014 *(5th Place in Algorithms Course)***

Powerful optimized algorithm that encrypts a message in an image and decrypts a message from an image too where the genetic algorithm along with some mathematical functions are used efficiently with a user-friendly GUI. Language Used: C#

[**Security Algorithms**](https://github.com/hoda-gharieb/Security-Algorithms)

**May 2015**

This project handles various security-algorithms. Some are classical algorithms like Ceaser, Monoalphabetic, Hill-Cipher, etc. Others are non-classical algorithms like AES, RSA, RC4 and Diffie -Helman key-exchange. Language Used: C#.

[**Images Background Subtraction**](https://github.com/hoda-gharieb/Images-Background-Subtraction)

**May 2015**

This project handles image background subtraction in 6 different ways. a serial way, 2 different parallel ways using open- mp, 2 different parallel ways using MPI and a parallel hybrid way between open-mp and MPI. Language Used: C++.

[**Chess AI Engine**](https://github.com/hoda-gharieb/ChessAIEngine)

**Mar 2012 - June 2012 *(1st Place in Structure Programming Course)***

Powerful Optimized Chess AI Engine where various Backtracking Algorithms and Pruning techniques are used efficiently with addition to Chess Grandmaster Statistics embedded in the Engine for a boost Performance with a user-friendly GUI added using SFML Graphics Library.

Language Used: C++

[**FOS (C under Linux)**](https://github.com/hoda-gharieb/FOS) **Mar 2014**

A command-line 32-bit operating system that implements process execution and memory management using paging. [**MIPS Processor Architecture (VHDL)**](https://github.com/hoda-gharieb/MIPS-Processor-Architecture-)

**Mar 2014**

[**Drawing’s Equations**](https://github.com/hoda-gharieb/Drawing-Equations)

**Feb 2013**

A friendly user interface application which allows the user to upload images for simple drawings and form equations for them, Also you can load text files containing equations for drawings and load the image. The equations are for the basic line segments in the drawing. The detection of lines and the formation of equations takes-place using the Hough transform algorithm.

Language Used: java

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| Certifications & Awards |  |
|  **ACM ACPC Regional Contest ( 20 / 70 )** | [*Nov 2014*](http://icpc.baylor.edu/regionals/finder/acpc-2014/standings) |
|  **ACM ACPC Regional Contest ( 37 / 102 )** | [*Dec 2013*](http://icpc.baylor.edu/regionals/finder/acpc-2013/standings) |
|  **ACM ACPC Regional Contest ( 39 / 59 )** | [*Nov 2012*](http://icpc.baylor.edu/public/standings/Arab-2012) |
|  **ACM ECPC National Contest ( 12 / 125 )** | [*Nov 2015*](https://icpc.baylor.edu/regionals/finder/ecpc-2015/standings) |
|  **ACM ECPC National Contest ( 11 / 164 )** | [*Oct 2014*](http://icpc.baylor.edu/regionals/finder/ecpc-2014/standings) |
|  **ACM ECPC National Contest ( 36 / 99 )** | [*Nov 2013*](http://icpc.baylor.edu/regionals/finder/ecpc-2013/standings) |
|  **ACM ECPC National Contest ( 55 / 77 )** | [*Nov 2012*](http://icpc.baylor.edu/public/standings/Egyptian-2012) |
|  **ACM Local Contest *( 18 / 83 )*** | [*Oct 2015*](https://icpc.baylor.edu/regionals/finder/ainshamscpc-2015/standings) |
|  **ACM Local Contest *( 6 / 55 )*** | [*Sept 2014*](http://icpc.baylor.edu/regionals/finder/ainshamscpc-2014/standings) |
|  **ACM Local Contest *( 3 / 26 )*** | [*Oct 2013*](http://www.acmascis.org/events/contests/local-contest14-2/) |
|  **ACM Local Contest *( 4 / 32 )*** | [*Oct 2012*](http://www.acmascis.org/events/contests/acmascis-local-contest13/) |
| * **ACM Junior Contest** *2nd Place* * **Qualified in Google code jam**   Extra-Curricular activities | [*Mar 2012*](http://www.acmascis.org/events/contests/first-year-contest/) |

* *Trainer at acmASCIS*

*Training junior students at acmASCIS on Problem Solving Techniques and various Algorithms and Data structures to be able to compete in local, regional and International ACM Contests.*

* *Problem setter and reviser for junior Contests and Practical Sessions*
* *Organization of the Event “Treasure Hunt”*
* *Chosen to be the Mentor of 2nd and 3rd level Trainees*

# Interests

Problem Solving, Active Member on Various Online Judges ([UVA,](http://uhunt.felix-halim.net/id/130170) [Code Forces ,](http://codeforces.com/profile/hodaKhaled) [Top Coder ,](http://community.topcoder.com/tc?module=MemberProfile&amp;cr=23059311) [TJU,](http://acm.tju.edu.cn/toj/user_hoda4.html) [SPOJ,](http://www.spoj.com/TUTEST/users/hoda_kyg/) [Timus ,](http://acm.timus.ru/author.aspx?id=148363) [A2 ,](http://a2oj.com/Profile.jsp?Username=Hoda%2BGharieb) [CodeChef)](http://www.codechef.com/users/hoda_gharieb), Learning new Technologies, Game Programming, Music, Drawing, Reading.