Yasser El-Sayed

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EDUCATION

Carnegie Mellon University — Expected May 2017
Bachelor of Science in Computer Science
Minor in Historical studies

EXPERIENCE

15-199 CMU Teaching Assistant — Fall 2015
- 15-199 is a course that introduces first year students to elements of formal logic as well as the historical context in which it was founded.
- Responsible for answering course-related questions from the students.
- Responsible for holding lectures introducing logic programming.

Metis Full-Time Front-End Developer — Summer 2015
- Metis is an application that aids students in their course planning,
- Responsible for developing core front-end features such as the side bar.
- Responsible for creating and maintaining code that provides information about courses and is the most used feature of the application.

Alice tutorial videos — Summer 2014
- Illustrated tutorial videos to assist children in learning Alice, an application that helps children in understanding programming.
- Recorded and collected audio as-well as video resources respectively.
- Edited audio and video resources to create professional tutorial videos.

CS4Qatar Mentor — Feb 2014
- Mentored 100 prospective Computer Science high school students in the C programming language to learn to solve puzzles using a robotics API.
- Assisted with front desk operations.
- Advised students with future potential career paths and decision-making

Commentator and Mentor in Botball 2014 — Feb 2014
- Mentored 150 prospective Computer Science high school students in the C++ programming language to create robots to collect objects.
- Provided feedback and commentated on the main events of Botball.
- Interviewed various winners in the competition about their robots.

PROJECTS

Hackathon App, Best Technichal Challenge Award, Buzzcast — Jan 2016
- Developed and designed an Event-Finding Web application that aggregates data from various social media feeds into one interface that shows users events based on location.
- Developed a front end that used Google maps to show the events.
- Presented the Application to four judges and a crowd of 100+ people.
- Won Best Technical challenge from Ooredoo.

Challenge 22 Finalist, Buzzcast — Jul 2015
- Developed, Designed and Pitched Buzzcast, a tool that aggregates multiple social media feeds into one interface that shows users events based on location.
- Reached final 18 teams chosen out of 355 teams chosen through 3 rounds.
- Built a Development plan that incorporated multiple developers and a detailed walkthrough of how the app will be fully developed and tested.

FileStack — Sept-Oct 2015
- Implemented FileStack, a distributed file system that stores a vast amount of data on multiple storage machines using Java Programming Language.
- Made functionalities for users to create, delete, read, write, and list files.

- Implemented and Maintained multiple Storage Servers and one centralized Naming Server for a user-friendly usage.
- Launched code on GitHub for version control at github.com/yelsayed.

HTTPS Server Jan-Feb 2016
- Implemented a real, concrete, and secure Web Server used for hosting content in C.
- Web server can be launched to host dynamic/static web content.
- Strengthened the reliability to handle 10,000+ clients simultaneously.
- Encrypts connections between the server and client using SSL enabling secure communication between the client and server.

MiniProlog Oct 2015
- Prolog is a general purpose logic programming language associated with artificial intelligence.
- Implemented a minimal Prolog language using the SML language.
- Implemented functions for structural addition, subtraction, multiplication, and other mathematical properties in my programming language.
- Implemented a way for users to make their own functions using MiniProlog.

Jeebly Sept – Dec 2015
- Founded and developed a service for students to avoid the hassles of online shopping in Qatar.
- Conducted 50+ customer development interviews for feature ideation.
- Launched a web service on Jeebly.me for people to place their orders on.

Smart Syllabus for non-technical users Sept 2015
- Programmed, designed and deployed a webapp for 79-104 in CMU to ease the process of creating and updating syllabi for non technical users.
- Currently Maintaining it on http://www.qatar.cmu.edu/~breilly2/world/.
- Created an interactive calendar system that takes the user's input and updates the calendar with the appropriate links and colors.
- Created a navigation system that eases navigation through site.

ChiQat Online Documentation Website Mar 2015
- Programmed, designed and deployed a website for the ChiQat tutoring program, which tries to teach users basic concepts in Computer Science.
- Provided user documentations and tutorials on how to use the program
- Performed user testing on 20 undergraduate students to identify the common issues to address in the online documentation.

Scrabble with Stuff Game Implementation Mar 2015
- Designed Object UML Model for the Scrabble with Stuff board game.
- Programmed, tested, and documented a game engine that implemented all aspects of the game using the Java programming language.
- Programmed, tested, and documented an autonomous user-interface.

Hackathon App, Best Application Award, SmartEd Jan 2015
- Programmed and designed a Smart text-editor that instantly fetches information for words and celebrities for a faster typing experience.
- Programmed a smart text-editor that increases accuracy and efficiency of information retrieval and removes the many hassles of typing.
- Programmed the back-end that instantaneously retrieves information.
- Presented the Application to four judges and a crowd of 80+ people.

SKILLS

Programming Languages and Skills
Python, JavaScript, SML, C, Java, CSS, C0, C++, UML Modeling
Languages
Fluent: English, Arabic. Basic: French

ACTIVITIES

CMU-Q Class of 2018 and 2019 Orientation Counselor — Aug 2014 – 2015
- Responsible for 10 freshmen students.
- Facilitated and produced multiple events for 120 students during the week.
- Produced 2 instructional videos for Head Counselors.

Debating Club — Fall 2013-Present
- Debated in 3 University level competitions under the name of CMUQ.
- Active member and regular debater in local debate practices.
- Participating in 2015 Comedy Night by presenting a 10 minute show.

Bio-Sci Club — Spring 2014 – 2015
- Wrote, and starred in the 2014 play for the CMU Bio-Club.
- Wrote, directed, and starred in the 2015 play for the CMU Bio-Sci Club.
- Received an award for best event of the year 2013-2014 in CMU-Q.
- Received an award for best community event of the year 2014-2015 in CMU-Q.
- Did fund raising for charity.

Computing Club — Spring 2014-Present
- Initiated and produced a competition to help freshmen learn Python.
- Designed, developed and maintained the Computing Club website.
- Head organizer of the Python Program in the Computing Club.

Today You Learned Club — Fall 2014-2015
- Founded and established the Today You Learned student organization that teaches the student body new and innovative information and trivia.
- Wrote the club constitution for the TYL which sets the rules and regulations for club members, officers, and presidents to follow.
- Convinced student government to allocate a budget of 6,000 QR.
- Recruited student and faculty speakers for multiple TYL Talks.
- Chaired, managed, and recruited students for officer positions.

COURSES

15-112 – Fundamentals of Programming — Fall 2013
A technical introduction to the fundamentals of programming with an emphasis on producing clear, robust, and reasonably efficient code using top-down design, informal analysis, and effective testing and debugging.

15-122 – Principles of Imperative Computation — Spring 2014
This course teaches imperative programming and methods for ensuring the correctness of programs. We learnt the process and concepts needed to go from high-level descriptions of algorithms to correct imperative implementations, with specific application to basic data structures and algorithms.

21-127 – Concepts of Mathematics — Fall 2013
This course introduces the basic concepts, ideas and tools involved in doing mathematics. As such, its main focus is on presenting informal logic, and the methods of mathematical proof.

15-150 – Functional Programming — Fall 2014
The purpose of this course is to introduce the theory and practice of *functional programming (FP)*. The characteristic feature of FP is the emphasis on *computation as evaluation*. The traditional distinction between program and data characteristic of *imperative programming (IP)* is replaced by an emphasis on classifying expressions by *types* that specify their applicative behavior.

15-210 – Parallel and Sequential Data Structures and Algorithms Spring 2015

This course teaches methods for designing, analyzing, and programming sequential and parallel algorithms and data structures. The emphasis is on teaching fundamental concepts applicable across a wide variety of problem domains, and transferable across a reasonably broad set of programming languages and computer architectures.

15-213 – Introduction to Computer Systems Summer 2015

This course provides a programmer's view of how computer systems execute programs, store information, and communicate. It enabled me to become more effective programmer, especially in dealing with issues of performance, portability and robustness.

15-214 – Principles of Software Construction Spring 2015

In this course, I was engaged with concepts related to the construction of software systems at a large scale, building on my understanding of the basic building blocks of data structures, algorithms, program structures, and computer structures.

15-221 – Technical Communication for Computer Scientists Spring 2015

The course helped improve my abilities in practical, professional communications (both written and oral). It helped me compose clear, concise technical writings and oral presentations for multi-level audiences.

15-251 – Great Theoretical Ideas in Computer Science Spring 2014

This course took a philosophical and historical perspective on the development of theoretical computer science. Starting with ancient algorithms for arithmetic, we revisited the development of mathematics from a computational point of view. Conversely, we also mathematically studied the nature of computation itself.

15-317 – Constructive Logic Fall 2015

This course is designed to provide a thorough introduction to modern constructive logic, its roots in philosophy, its numerous applications in computer science, and its mathematical properties. This course covers intuitionistic logic, inductive definitions, functional programming, type theory, connections between classical and constructive logic, logic programming, linear logic, lax logic.

15-437 – Web Application Development Spring 2016

This course introduces concepts in programming web application servers. At the conclusion of this course I was able to understand the fundamental concepts of software engineering and how they apply to web application design and programming, and was able to produce substantial web applications as part of a team.

15-440 – Distributed Systems

This is an introductory course on Distributed Systems. The emphasis of this course is on the techniques for creating functional, usable, and scalable distributed systems. To make the issues more concrete, the class included several multi-week projects requiring significant design and implementation. Fall 2015

15-441 – Computer Networks Spring 2016

This is an introductory course in Computer Networks. The emphasis of this course is on the basic performance and engineering tradeoffs in the design and implementation of computer networks. To make the issues more concrete, the class includes several multi-week projects requiring significant design and implementation.