

Abdelrahman Hosny

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Summary

I'm a research-oriented software engineer. I write code, analyze data, read latest research pieces and communicate my thoughts online/offline. My goal is to establish an AI-based datacenter in Africa.

Interests

Algorithms, Machine Learning, Deep Learning, Artificial Intelligence, Data Analytics, Cloud Computing

Education

2019-Present **Visiting Graduate Student** – Computer Science and Engineering, UCSD, San Diego, CA
2018-Present **PhD** – Computer Science, Brown University, Providence, RI.
Interest: machine learning; cloud computing; big data; high performance computing
2015-2016 **Master's** – Computer Science and Engineering, University of Connecticut, Storrs, CT. GPA: A
Thesis: Integrative analysis of heterogeneous genomics data for triple-negative breast cancer and high grade serous ovarian cancer. Online access: <http://masters.abdelrahmanhosny.me>
2016-2016 **Graduate Certificate in College Instruction**, a 9-credit program for graduate-level teaching, UConn
Teaching Portfolio: <http://teaching.abdelrahmanhosny.me>
2009-2013 **Bachelor** – Computer Science, Assiut University, Egypt. Rank: 1st GPA: 92.51%
2008-2009 **High School** – Ranked first in Egypt, Math Section. Grade: 99.6%

Experience

June 2019 – Sep. 2019 **Research Intern**, Microsoft Research, Redmond, WA, USA
June 2017 – Aug. 2018 **Research & Development Engineer**, xWARE Integrated Solutions, Assiut, Egypt.
Jun. 2017 – Aug. 2018 **Teaching Assistant**, Computer Science, Assiut University, Egypt
Courses Taught: Computer Architecture, Programming with Assembly for x86 architectures.
Jan. 2016-May. 2017 **Research Assistant**, Center for Quantitative Medicine, UConn Health, CT, USA
Projects: AlgoPiper, TURING
Jan. 2015-Dec. 2016 **Teaching Assistant**, Computer Science and Engineering, University of Connecticut, CT, USA
Courses: Statistical Analysis of Computer Systems, Algorithms & Complexity, Cloud Computing
Summer 2016 **Research Intern**, Sheida Nabavi Lab, University of Connecticut, CT, USA
Jan. 2015-Dec. 2015 **Research Assistant**, Center for Hardware Assurance, Security and Engineering, Electrical and Computer Engineering, University of Connecticut, CT, USA
Project: Anomalous behavior detection through real-time analysis of log files
Summer 2015 **Research Intern**, Center for Quantitative Medicine, UConn Health, CT, USA
Oct. 2013-Dec. 2014 **Teaching Assistant**, Computer Science, Assiut University, Egypt
Courses: Introduction to Object Oriented Programming using Java, Compilers Theory
Summer 2012 **Software Engineering Intern**, ITWorx, Cairo, Egypt
Project: School Management System using Microsoft SharePoint technology

Honors and Awards

2019 Richard Newton Young Student Fellowship, Design Automation Conference (DAC'19), Las Vegas, NV, USA
2015 UConn Graduate Student Intern of the Year Honorable Mention, University of Connecticut, USA
2013 Top 10 Debaters Medal and Award, 2nd International Universities Arabic Debating Championship, Al Doha, Qatar
2010 One of Top 10 Math Competitors, AUC Math Competition, Cairo, Egypt.
2009 Coca-Cola Education Award, Assiut Governorate shield, Assiut Municipal Council shield
Teachers Association in Assiut shield

Community

2019 External Reviewer, AMIA 2019 Annual Symposium
2010 – Present A student member in IEEE and ACM since 2010

Publications Highlight

Full profile: <http://scholar.abdelrahmanhosny.me>

- [-] **Hosny A.**, Zare F., Nabavi S. (2017) VarSimLab: A Docker-based Pipeline to Automatically Synthesize Short Reads with Genomic Aberrations, ACM BCB, Boston, Massachusetts.
- [-] **Hosny A.**, Vera-Licona P., Laubenbacher R., Favre T. (2016) AlgoRun, a Docker-based packaging system for platform-agnostic implemented algorithms. *Bioinformatics*.
- [-] Zare F., M Dow, N Monteleone, **Hosny A.**, Nabavi S. (2017) An evaluation of copy number variation detection tools for cancer using whole exome sequencing data. *BMC Bioinformatics*.
- [-] **Hosny A.**, Gokhale S. (2017) Project-based Learning in a Senior-Level Probabilistic Analysis Course in the CS Curriculum. *ISEC'17*, Princeton, New Jersey.
- [-] Moanes A, Ibrahim A., **Hosny A.** (2016) xGame: A Novel Approach for Developing Accessible Mobile Games. *SOMET'16*, Larnaca, Cyprus.

Featured Projects

- 2018 OpenROAD Flow – Brown University funded by DARPA
A cloud-based application to run a fully automated hardware design flow [link: <https://theopenroadproject.org/>]
- 2017 MeSHgram – NCBI Hackathon, NLM, NIH, Washington DC [link: <https://github.com/NCBI-Hackathons>]
A web-based tool to visually browse co-occurrence of MeSH terms in PubMed.
- 2016 *Integrative Analysis of heterogeneous genomics data for TNBC*, Master's Thesis
Identifying candidate biomarkers for drug resistance in heterogeneous breast cancer data.
- 2016 *CNV-Sim*, main contributor [link: <https://nabavilab.github.io/CNV-Sim>]
Simulating copy number variations in whole genome and targeted sequencing.
- 2016 *TURING*, main contributor [link: <http://www.discretedynamics.org/>]
A crowd-sourced platform for algorithms focused on time- and state-discrete dynamical systems.
- 2016 *AlgoPiper*, main contributor [link: <http://algotpiper.org/>]
A visual tool to create pipelines based on AlgoRun packaging system.
- 2016 *Deep learning models on Saccharomyces Cerevisiae*, main contributor
[link: <http://abdelrahmanhosny.github.io/DL-Cerevesiae/>]
Confirming DNA origins of replication in Cerevisiae genome using deep learning models.
- 2015 *AlgoRun*, main contributor [link: <http://algorun.org/>]
A Docker-based packaging system for platform-agnostic implemented algorithms.
- 2015 *xGame*, solution architect [link: <http://xgameapp.com/>]
A mobile game engine for audio-only accessible games.
- 2014 *Badminton Trainer SW*, main contributor
[link: <https://github.com/abdelrahmanhosny/badminton-trainer-software>]
The goal is to help in teaching basic skills of badminton using Microsoft Kinect sensor.
- 2013 *DevOS*, senior design project
An integrated web-platform for developers that provides them with a complete and ready-to-use environment (Infrastructure, OS, IDEs), remotely accessible from anywhere through a browser
- Others Check <http://github.abdelrahmanhosny.me>

Skills

Favorite technologies: Python, Django, VueJS, PostgreSQL, Redis, Docker, Kubernetes, Tensorflow Research, Cloud Computing, CI/CD, Software Architecture, Micro-services, Software Engineering, Design patterns, Prediction Algorithms, Classification Algorithms, Shell Scripting, Cluster Computing, Docker, Django, NodeJS, Git, Linux Server Administration, Web Apps Development, Object Oriented Programming, Implementing Data Structures and Algorithms, Networking and Parallel Computing. *Currently enhancing:* Containerization, GraphQL, Web Assembly.

Conferences and Certification

August 2017 *Presenter*, ACM BCB'17, Boston, MA.
May 2016 Docker ContainerDays at Microsoft New England
April 2016 *Speaker* at Docker Boston Meetup. Talk link: <http://bit.ly/algorun-talk>
March 2016 *Mentor* at Docker Birthday #3, Boston, MA
November 2015 Harvard Arab Weekend, Boston, MA
January 2013 International Software Testing Qualifications Board (ISTQB) – Foundation

Volunteering

Feb. 2016 - May 2017 *Webmaster* at IEEE Connecticut Section
Activities: maintain and update all website content of IEEE CT Section.
November 2013 *Team Coach* at ACM Arab Collegiate Programming Contest (ACPC), Egypt
Activities: mentored a team of programmers to solve programming challenges
Aug. 2012 - May 2013 *Microsoft YouthSpark Leader*, Microsoft Citizenship, Egypt
Activities: planned social projects that promote entrepreneurship
trained students on job market soft skills.
Jan. 2011 - May 2013 *Microsoft Student Partner* at Microsoft Egypt
Activities: founded and lead Microsoft tech-club at Assiut University
delivered technical sessions evangelizing Microsoft technologies
contributed to Microsoft Windows 8 Launch in Egypt
competed in Microsoft Imagine Cup 2012
Aug. 2011 - May 2012 *President*, Alashanek Ya Balady for Sustainable Development, Assiut Franchise
Activities: started R&D processes to support poor people in the city
formulated youth development and micro loans programs
Aug. 2010 – May 2011 *Scientific Committee Head*, Student Union, Faculty of Computers & Information
Activities: contributed to a country-wide conference for CS students.
delivered technical sessions about web development

Personal Information

Gender: Male Nationality: Egyptian
Date of Birth: 1992 Marital Status: Single
References: Available upon request.

Download the latest update of my CV at:
<http://cv.abdelrahmanhosny.me>