YaraAwad

PhD Student

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Git

github.com/awadyn

Interests

Computer Systems and Architecture
Hybrid Models of Computation
Smart Systems
Energy Proportional Computation
Neuromorphic Computing

Education

Sept 2017 - Present
PhD in Computer Science — Boston University, Boston, MA, USA
Research Adviser: Professor Jonathan Appavoo, Professor Steve Homer
Research Lab: Systems Lab
Coursework:
- Advanced Algorithms, Cryptography, Operating Systems, Distributed Systems, Formal Methods and Verification, Computational Complexity

Sept 2012 - May 2017
BS in Computer Science — American University of Beirut, Beirut, Lebanon
Adviser: Professor Mohamad Jaber
Relevant Coursework:
- Operating Systems, Machine Learning, Neurobiology, General Psychology, Probability and Statistics, Combinatorial Structures, Engineering Electronics

Sept 2014 - Dec 2014
Exchange Program — Boston University, Boston, MA, USA

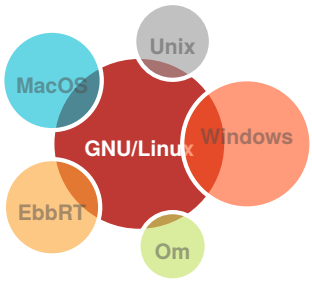
Sept 2009 - June 2012
High School Diploma — Abdul-Aziz International School, Riyadh, Saudi Arabia

Research Experience

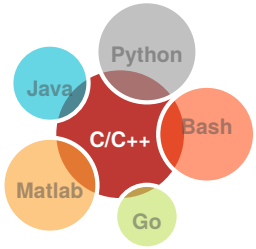
Sept 2017 - Present
Graduate Student — Boston University, Boston, MA
Scalable Elastic System Architecture (SESA)
Discuss, survey, implement, and test systems that are built to serve in the context of today's versatile and large application-level workloads in an elastic, durable, memory-aware, and energy-aware fashion

Sept 2017 - Present
Graduate Student — Boston University, Boston, MA
Programmable Smart Machines Lab (PSML)
Incorporate ideas related to learning, signal processing, and neuro-morphic computation into the building and design of systems that can learn and evolve in order to better serve a non-deterministic external world

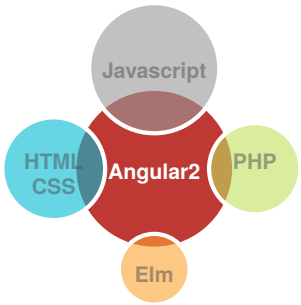
Operating Systems



Programming Languages



Web Programming



Feb 2017 - July 2017 **Researcher** American University of Beirut, Beirut, Lebanon
Security Lab
Modeling Malware as a Language
Designed a new approach to static malware analysis that treats malware analysis as natural language analysis through modeling malware as a language and assessing the feasibility of finding semantics in instances of that language

Jan 2015 - May 2015 **Visiting Researcher** Boston University, Boston, MA
Programmable Smart Machines Lab (PSML)
Automatically Scalable Computation (ASC)
Studied a model system that takes an alternative approach to automatic parallelization through programmable tunnelling, by means of predictive partitioning of a program's trajectory and speculative execution of that trajectory's partitions

Jan 2014 - April 2014 **Undergraduate Researcher** American University of Beirut, Beirut, Lebanon
Organic Chemistry Lab with Professor Kamal Bouhadir (American University of Beirut)
Synthesized non-conjugated dienes attached to nucleobases and studied their potential as biosensors in therapeutic applications.

Professional Development

Oct 2018 **OSDI** Carlsbad, CA
Annual conference introducing novel research on operating and distributed system design and application.

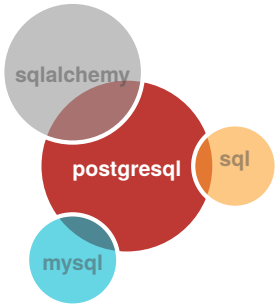
May 2018 **ICC-IEEE** Kansas City, MO
Annual conference introducing research on networking systems, communications infrastructure, and security.

Oct 2017 **Massachusetts Open Cloud (MOC) Workshop** Boston University, Boston, MA
Annual workshop introducing recent work with the MOC.

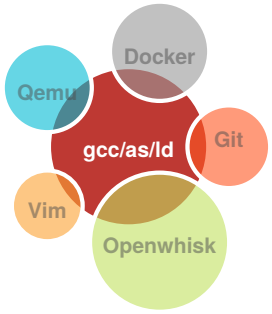
Jan 2016 **Winter School for Computational Neuroscience** American University of Beirut, Beirut, Lebanon
Intensive course introducing the basics of computational neuroscience and theoretical modelling of the brain and its functions.

May 2015 **Boston University Symposium on Physics, Mathematics, and Neuroscience of Cortical Function** Boston University, Boston, MA
Symposium introducing theories and data on mammalian cortical functions.

Database Management Systems and Languages



Tools/Platforms



Languages

English ★★★★★
Arabic ★★★★★
French ★☆☆☆☆

Spring 2015 **Seminar on Programmable Smart Machines** Boston University, Boston, MA
Graduate level seminar on the development of programmable smart machines, reviewing open questions and suggested approaches toward moving past the bottlenecks imposed by the Von Neumann architecture, including, but not limited to, approximate computation and memoization.

Teaching Experience

Sept 2018 - Dec 2018 **Teaching Fellow** Boston University, Boston, MA
CS210: Computer Systems
Introduces fundamental hardware and software concepts used in systems programming

Jan 2019 - May 2019 **Teaching Fellow** Boston University, Boston, MA
CS210: Computer Systems

May 2019 - July 2019 **Teaching Fellow** Boston University, Boston, MA
CS210: Computer Systems

Jan 2020 - Present **Teaching Fellow** Boston University, Boston, MA
CS210: Computer Systems

Work Experience

Sept 2016 - May 2017 **Software Engineer** Interactive Life Inc., Beirut, Lebanon
Interactive Life Inc is a startup that offers a mobile application publishing platform that anyone can use to create a mobile application.

Sept 2013 - Aug 2014 **Dancer** Sima Dance Company, Beirut, Lebanon
Sima Dance Company is a Syrian contemporary and jazz dance company.

Publications

Awad, Y., Nassar, M., and Safa, H. Modeling Malware as a Language. 2018 IEEE International Conference on Communications (ICC).

Under Review

Dong, H., Appavoo, J., Krieger, O., Cadden, J., Unger, T., Awad, Y. Impact of OS Design and Hardware Configuration on the Power Performance Tradeoff. 2020 USENIX Annual Technical Conference (ATC).

Cadden, J., Unger, T., Awad, Y., Dong, H., Krieger, O., Appavoo, J. Skip Redundant Paths to Make Serverless Fast. Eurosys 2020.

Honors & Awards

May 2017	**Mark Sawaya Excellence Award**	American University of Beirut, Beirut, Lebanon
April 2014	**Boston University Exchange Scholarship**	American University of Beirut, Beirut, Lebanon
Fall 2012 - Spring 2017	**Deans Honor List**	American University of Beirut, Beirut, Lebanon
Dec 2013	**Arab's Got Talent: First Place Winner**	Beirut, Lebanon