Yara Awad

PhD Student

Contact

awadyn@bu.edu

Git

github.com/awadyn

Education

Sept 2017 - Present

PhD in Computer Science Boston University, Boston, MA, USA

Adviser: Professor Jonathan Appavoo, Professor Steve Homer
Lab: Scalable Elastic Systems Architecture - Programmable Smart Machines
Research Direction: The design and implementation of general-purpose systems that 1) recognize structure and redundancy in general-purpose computation and 2) exploit alternative micro-architectures in order optimize-out said redundancy, thereby transforming the "general-purpose" to "special-purpose" in its own turf.
Graduate-Level Coursework: Seminar on Programmable Smart Machines, 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

Relevant Coursework: Operating Systems, Computer Architecture, Combinatorial Structures, Machine Learning, Neurobiology, Probability and Statistics, 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

Interests

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

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.
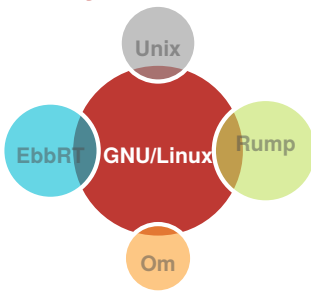
Sept 2017 - Present

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.

Familiar Systems

Unix · **EbbRT** · **GNU/Linux** · **Rump** · **Om**

System Programming

Assembly · **Go** · **C** · **C++** · **Bash**

Other Programming

Java · **Python** · **Matlab**

Web Development

Javascript · **HTML/CSS** · **Angular2** · **PHP** · **Elm**

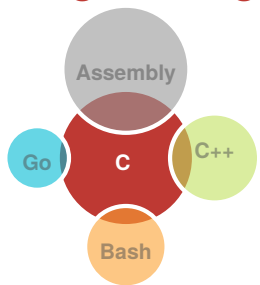|		
Feb 2017 - July 2017	**Researcher** *Security Lab* **Modeling Malware as a Language** Designed a new approach to static malware analysis that treats malware analysis as natural language analysis through modeling malware as a language and assessing the feasibility of finding semantics in instances of that language.	American University of Beirut, Beirut, Lebanon
Jan 2015 - May 2015	**Visiting Researcher** *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.	Boston University, Boston, MA
Jan 2014 - April 2014	**Undergraduate Researcher** *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.	American University of Beirut, Beirut, Lebanon

Professional Development

|		
July 2020	**ATC** *attendee*	Virtual
Oct 2018	**OSDI** *attendee*	Carlsbad, CA
May 2018	**ICC-IEEE** *presenter: Modeling Malware as a Language*	Kansas City, MO
Oct 2017	**Massachusetts Open Cloud (MOC) Workshop** *attendee*	Boston University, Boston, MA
Jan 2016	**Winter School for Computational Neuroscience** *attendee and project presenter*	American University of Beirut, Beirut, Lebanon
May 2015	**Boston University Symposium on Physics, Mathematics, and Neuroscience of Cortical Function** *attendee*	Boston University, Boston, MA
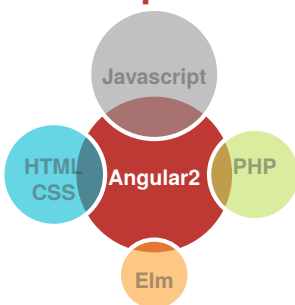
Teaching Experience

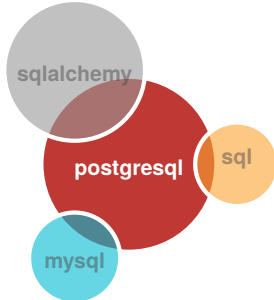|		
Fall 2018, Spring 2019, Summer 2019, Spring 2020	**Teaching Fellow** *CS210: Computer Systems* Introduces fundamental hardware and software concepts used in systems programming.	Boston University, Boston, MA

## Database Management Systems and Languages

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

James Cadden, Thomas Unger, Yara Awad, Han Dong, Orran Krieger, and Jonathan Appavoo. 2020. SEUSS: Skip Redundant Paths to Make Serverless Fast. In Proceedings of the Fifteenth European Conference on Computer Systems (EuroSys '20).

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

Tools/Platforms
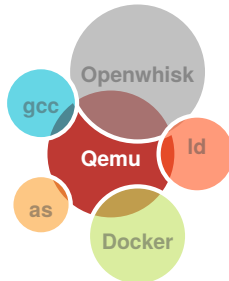
Under Review

Dong, H., Arora, S., Awad, Y., Unger, T., Crovella, M., Krieger, O., Appavoo, J. A Study of Energy Efficiency in Operating Systems. 2021 USENIX Operating Systems Design and Implementation (OSDI).

Honors & Awards

May 2020   **College of Arts and Sciences Outstanding Teaching Award**   Boston University, Boston, MA

May 2017   **Mark Sawaya Excellence Award**   American University of Beirut, Beirut, Lebanon

April 2014   **Boston University Exchange Scholarship**   American University of Beirut, Beirut, Lebanon

Dec 2013   **Arab's Got Talent: First Place Winner**   Beirut, Lebanon

Natural Languages

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