

MUSTAFA BAL

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EDUCATION

- Harvard University** | Cambridge, MA May 2019
A.B. in Computer Science and Linguistics, Secondary in Mathematical Sciences
Relevant Coursework: Computer Networks, Programming Languages, Artificial Intelligence, Data Structures & Algorithms, Multivariable Calculus, Linear Algebra, Applied Algebra, Inter. Macroeconomics, Intr. Probability
- Thomas Jefferson High School for Science and Technology** | Alexandria, VA Jun 2015
Jefferson Diploma, Advanced Math & Technology Seal, Computer Science Research Lab

EXPERIENCE

- Microsoft** | Redmond, WA May 2018 – Aug 2018
Software Engineer Intern
- Developed a new state-store framework for resource managers on Hadoop YARN that improved task scheduling efficiency by combining distributed databases and ZooKeeper coordination services for YARN schedulers.
 - Investigated the scalability of YARN's High Availability services with Azure's SQL Databases on the resource and application management layers of Microsoft's Azure Data Lake Analytics product.
- Harvard University** | Cambridge, MA Aug 2017 – Present
Teaching Fellow – Computer Science 152 & Computer Science 50
- Holding office hours, grading homework and exams, designing and compiling problems, and running weekly sections for CS 152: Programming Languages and CS 50: Introduction to Computer Science courses.
- Researcher – Department of Computer Science & Harvard University Asia Center*
- Investigating novel methods for annotating and predicting restrictive & non-restrictive noun phrase modifications, advised by Professor Stuart Shieber.
 - Studying the impact of social media on users' mental health in Southeast & East Asia, made possible through +\$8000 grant to conduct field research in Malaysia, South Korea, Japan and Vietnam through donor funds of the Asia Center.
- IBM Research** | Yorktown Heights, NY May 2017 – Aug 2017
Research Intern
- Produced a pseudo-system interface and a filesystem-in-userspace for containers and virtual machines on IBM's Bluemix Cloud Platform to run existing analytical tools without any need to reengineer new solutions.
 - Implemented a black-box platform for running analytical tools that aided data correlation between container applications and provided a global view of running clusters.
 - Nadgowa, S., Isci, C., & Bal, M. 2018. Déjà Vu: Bringing Black-box Security Analytics to Cloud. *ACM Middleware*.
- Sierra Nevada Corporation** | Ankara, Turkey Jan 2016 – Jun 2016
Software Engineer (Part-time)
- Programmed realtime data-visualization applications to analyze semantics of tweets posted under Twitter hashtags.
 - Proposed architecture to implement a high-volume tweet search tool for detailed behavioral analysis.
- Scientific and Technological Research Institute of Turkey** | Ankara, Turkey Jul 2015 – Sep 2015
Software Engineer Intern
- Rebuilt the training tracking system in Institutions's personal management suite and decreased loading times of profiles.
 - Implemented the feature of locating trained engineers for specific projects, thereby reducing the bureaucracy involved.

LEADERSHIP

- Harvard Undergraduate Blockchain Group** | Cambridge, MA Dec 2017 – Present
Chief Financial Officer
- Managing the budget and raising funds for the only blockchain organization for undergraduates at Harvard University.
- Harvard College Turkish Student Association** | Cambridge, MA Aug 2017 – Present
President
- Presiding over meetings, creating agendas, planning events, and representing the Turkish community at the Ug. Council.

SKILLS

Technologies: Java, Python, C, C#, HTML5, CSS, JavaScript, SQL, OCaml, LaTeX

Software: Hadoop YARN, Vagrant, Docker, Angular.JS, Node.JS, MongoDB, Django, ASP.NET, OpenCV

Languages: English (native), Turkish (native), French (proficient), Arabic (elementary), Mandarin (elementary)