

# Abdul Wasay

PhD Candidate, Harvard School of Engineering and Applied Sciences

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Contact Information	33 Oxford Street, MD117 Cambridge, MA 02138	<a href="mailto:awasay@seas.harvard.edu">awasay@seas.harvard.edu</a> <a href="https://awasay.github.io">https://awasay.github.io</a>
Research Interests	Designing high performance machine learning systems Demystifying deep learning pipelines	
Education	<b>Harvard University</b> <i>Doctor of Philosophy in Computer Science</i> – Thesis: Accelerating Machine Learning [WIP] – Advisor: Prof. Stratos Idreos	Cambridge, MA August 2014 – June 2021 (expected)
	<b>Harvard University</b> <i>Masters of Science in Computer Science</i>	Cambridge, MA August 2014 – May 2016
	<b>Lahore University of Management Sciences</b> <i>Bachelors of Science in Computer Science</i> – Thesis: Rethinking Buffer Management in Data Center Networks – Advisor: Prof. Ihsan A. Qazi and Prof. Zartash A. Uzmi	Lahore, Pakistan August 2010 – May 2014
	Honors & Awards	Second place at SIGMOD Research Competition (student award) 2020 Archer-Cornfield Fellowship 2019 – 2020 Most Reproducible Paper Award at SIGMOD 2017 Heidelberg Laureate Forum (selection and travel grant) 2015 Summer@EPFL Research fellowship 2013 UGRAD Exchange Scholarship awarded by the U.S. Dept. of States 2013 LUMS National Outreach Program (NOP) full scholarship for undergraduate study 2010 – 2014 LUMS School of Science and Engineering Dean's Honor List 2010 – 2014
	Professional Experiences	<b>Harvard University</b> Cambridge, MA <i>Researcher at Data Systems Laboratory</i> August 2014 – Present Advisors: Prof. Stratos Idreos – Designing techniques to accelerate machine learning and data science pipelines – Designing data systems tailored for data exploration
	<b>Ashesi University</b> <i>Visiting Faculty (Archer-Cornfield Fellowship)</i> – Designed and taught three undergraduate courses on data systems and machine learning – Mentored five undergraduate students on their senior year research projects – Served on the campus-wide curriculum redesign committee	Berekuso, Ghana August 2019 – June 2020
	<b>Harvard University</b> <i>Instructor at Harvard Summer School</i> – Designed and taught Harvard's first summer hybrid course on data systems and machine learning	Cambridge, MA May 2019 – August 2019
	<b>Harvard University</b> <i>Resident Tutor at Harvard College</i> – Provided academic advising to seven Harvard sophomores per year – Mentored and supported a group of 30 diverse students per academic year – Fostered a sense of community at Quincy House, one of Harvard's 12 residential houses	Cambridge, MA August 2015 – May 2019

**Hewlett Packard Enterprise***Summer research intern at Arcsight*

Advisors: Alkis Simitsis and Martin Arlitt

– Designed and evaluated a strategy to summarize network traffic data (*patent granted*)

Sunnyvale, CA

June 2017 – August 2017

**École Polytechnique Fédérale de Lausanne (EPFL)***Summer research intern*

Advisors: Prof. Matthais Grossglauser and Ehsan Kazemi

– Incorporated community structure for social graph de-anonymization

Lausanne, Switzerland

June 2013 – June 2013

**Publications**

MotherNets: Rapid Deep Ensemble Learning.

**Abdul Wasay**, Brian Hentschel, Yuze Liao, Sanyuan Chen, and Stratos Idreos.Conference on Machine Learning and Systems *MLSys* 2020.

Learning Data Structure Alchemy.

Stratos Idreos, Kostas Zoumpatianos, Subarna Chatterjee, Wilson Qin, **Abdul Wasay**, Brian Hentschel, Mike Kester, Niv Dayan, Demi Guo, Minseo Kang, and Yiyoun SunBulletin of the IEEE Computer Society Technical Committee on *Data Engineering*, 2019.

The Periodic Table of Data Structures.

Stratos Idreos, Konstantinos Zoumpatianos, Manos Athanassoulis, Niv Dayan, Brian Hentschel, Michael S. Kester, Demi Guo, Lukas Maas, Wilson Qin, **Abdul Wasay**, Yiyoun Sun.Bulletin of the IEEE Computer Society Technical Committee on *Data Engineering*, 2018.

Data Canopy: Accelerating Exploratory Statistical Analysis.

**Abdul Wasay**, Xinding Wei, Niv Dayan, and Stratos Idreos.ACM International Conference on Management of Data *SIGMOD*, 2017.

Queriosity: Automatic Data Exploration.

**Abdul Wasay**, Manos Athanassoulis, and Stratos Idreos.IEEE International Congress on *BigData*, 2015.

Rethinking Buffer Management In Data Center Networks.

Aisha Mushtaq, Asad K. Ismail, **Abdul Wasay**, Bilal Mahmood, Ihsan A. Qazi, and Zartash A. Uzmi.ACM International Conference on Data Communications *SIGCOMM*, 2014.**Teaching****Harvard University***Course Instructor* at CSCI S-165: Data Systems and Machine Learning

Cambridge MA

Summer 2019

**Ashesi University***Course Instructor* at CS402: The Scientist and the Machine*Course Instructor* at CS313: Intermediate Programming*Course Instructor* at CS460: Data Systems and Machine Learning

Berekuso, Ghana

Spring 2020

Spring 2020

Fall 2019

**Harvard University***Teaching Fellow* at CS165: Data Systems*Teaching Fellow* at CS265: Big Data Systems*Teaching Fellow* at ac297r: Capstone Projects

Cambridge MA

Fall 2015, 2016, 2018

Spring 2016, 2018

Spring 2017

**Patent**

Network Traffic Data Summarization

**Abdul Wasay**, Alkiviadis Simitsis, Martin Arlitt.

U.S. Patent 10,432,539. Issued on October 1, 2019.

## Advising

### **Harvard Data Systems Laboratory** (advising research interns)

Neil Band (Harvard College) – *Next: Rhodes Scholar at Oxford University*

– **Publication:** MemFlow: Memory-Aware Distributed Deep Learning

Yuze Liao (Carnegie Mellon University) and Sanyuan Chen (Harbin Institute of Technology)

– **Publication:** MotherNets: Rapid Deep Ensemble Learning

Xingding Wei (Tsinghua University) – *Next: Google*

– **Publication:** Data Canopy: Accelerating Exploratory Statistical Data Analysis

Zichen Zhu (Tsinghua University) – *Next: PhD student at Boston University*

– Project: Reinforcement learning to visualize data

Dhruv Gupta (Thomas Jefferson High School) – *Next: undergraduate at Harvard College*

– Project: Interactive data exploration front ends

Nithin Tumma (Harvard College, AB '16) – *Next: co-founder at Side*

– Project: Sketching techniques for data exploration

### **Ashesi University** (advising seniors on their research theses)

Naa Lamle Boye

– Project: Using Geospatial Analytics for Water Harvesting in Northern Ghana

Mustapha Tidoo Yussif

– Project: Fall Armyworm Detection using Deep Learning

Gbetondji Jean-Sebastien Dovonon

– Project: Scalable Automated Machine Learning in Resource-Constrained Environments

Juliet Fatima Abdul-Aziz

– Project: Adaptive Credit Card Fraud Prediction using Neural Networks