

Abdul Wasay

PhD Candidate, Harvard School of Engineering and Applied Sciences

Contact Information	33 Oxford Street, MD117 Cambridge, MA 02138	awasay@seas.harvard.edu https://scholar.harvard.edu/awasay
Research Interests	Designing high performance machine learning systems Demystifying deep learning pipelines	
Education	Harvard University <i>Doctor of Philosophy in Computer Science</i> – Thesis: Computation-cautious Machine Learning Systems [WIP] – Advisor: Prof. Stratos Idreos	Cambridge, MA August 2014 – May 2021 (expected)
	Harvard University <i>Masters of Science in Computer Science</i>	Cambridge, MA August 2014 – May 2016
	Lahore University of Management Sciences <i>Bachelors of Science in Computer Science</i> – Thesis: Rethinking Buffer Management in Data Center Networks – Advisors: 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 studies 2010 – 2014 LUMS School of Science and Engineering Dean's Honor List 2010 – 2014
	Professional Experiences	Harvard University <i>Researcher at Data Systems Laboratory</i> Advisors: Prof. Stratos Idreos – Designing techniques to accelerate machine learning and data science pipelines – Designing data systems tailored for data exploration Ashesi University <i>Visiting Faculty (Archer-Cornfield Fellowship)</i> – Designed and taught three undergraduate courses on data systems and machine learning – Mentored four undergraduate students on their senior-year research projects – Served on the campus-wide curriculum redesign committee Harvard University <i>Instructor at Harvard Summer School</i> – Designed and taught Harvard's first summer hybrid course on data systems and machine learning Harvard University <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 – Lead the LGBTQ+ Committee and helped establish the InQlusivity initiative

Hewlett Packard Enterprise*Researcher 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

Deep Learning through a Systems and Ethics Lens.

Abdul Wasay, Subarna Chatterjee, and Stratos Idreos.ACM International Conference on Management of Data *SIGMOD*, 2021.

More or Less: When and How to Build Convolutional Neural Network Ensembles.

Abdul Wasay and Stratos Idreos.International Conference on Learning Representation *ICLR* 2021.

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 Yiyu 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**, Yiyu 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

Patents	Network Traffic Data Summarization Abdul Wasay , Alkiviadis Simitsis, Martin Arlitt. <i>U.S. Patent 10,432,539. Issued on October 1, 2019.</i>	
	Data Canopy: Accelerating Exploratory Statistical Analysis Abdul Wasay , Xinding Wei, Niv Dayan, and Stratos Idreos. <i>Patent Applied.</i>	
Invited Talks	Microsoft Research, <i>New York NY</i>	February 2021
	Boston University, <i>Boston MA</i>	November 2020
	LUMS, <i>Lahore, Pakistan</i>	January 2020
	Tableau, <i>Cambridge MA</i>	December 2019
	Google Research, <i>Accra, Ghana</i>	October 2019
	Ashesi University, <i>Accra, Ghana</i>	September 2019
	Vertica, <i>Cambridge MA</i>	August 2018
	NetApp, <i>Waltham MA</i>	July 2018
Advising	Harvard Data Systems Laboratory (advising research interns)	
	Neil Band (Harvard College) – <i>Next: Rhodes Scholar at Oxford University</i>	
	– 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) – <i>Next: Google</i>	
	– Publication: Data Canopy: Accelerating Exploratory Statistical Data Analysis	
	Zichen Zhu (Tsinghua University) – <i>Next: PhD student at Boston University</i>	
	– Project: Reinforcement learning to visualize data	
	Dhruv Gupta (Thomas Jefferson High School) – <i>Next: undergraduate at Harvard College</i>	
	– Project: Interactive data exploration front ends	
	Nithin Tumma (Harvard College, AB '16) – <i>Next: co-founder at Side</i>	
	– 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	