

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) Archer-Cornfield Fellowship Most Reproducible Paper Award at SIGMOD Heidelberg Laureate Forum (selection and travel grant) Summer@EPFL Research fellowship UGRAD Exchange Scholarship awarded by the U.S. Dept. of States LUMS National Outreach Program (NOP) full scholarship for undergraduate studies LUMS School of Science and Engineering Dean's Honor List	2020 2019 – 2020 2017 2015 2013 2013 2010 – 2014 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	Cambridge, MA August 2014 – Present
	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	Berekuso, Ghana August 2019 – June 2020
	Harvard University <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
	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	Cambridge, MA August 2015 – May 2019

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	University of California San Diego, <i>La Jolla CA</i>	February 2021
	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	
	Xinding 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	