Abdul Wasay aw.awasay@gmail.com | awasay.github.io

Research. Performant ML & deep learning systems • Improving programmer productivity • ML-aided HW Design

Harvard UniversityCambridge, MDoctor of Philosophy in Computer Science (GPA:3.8/4)2014 - 20• Thesis: Computation-Cautious Machine Learning Systems2014 - 20Masters of Science in Computer Science (GPA:3.75/4)2014 - 20Lahore University of Management SciencesLahore, PakistBachelors of Science in Computer Science (GPA:3.9/4)2010 - 20RESEARCH AND PROFESSIONAL EXPERIENCEIntel Labs: Machine Learning Research Scientist	EDUCATION	
Doctor of Philosophy in Computer Science (GPA:3.8/4)       2014 – 20         • Thesis: Computation-Cautious Machine Learning Systems       2014 – 20         Masters of Science in Computer Science (GPA:3.75/4)       2014 – 20         Lahore University of Management Sciences       Lahore, Pakist         Bachelors of Science in Computer Science (GPA:3.9/4)       2010 – 20         RESEARCH AND PROFESSIONAL EXPERIENCE       Intel Labs: Machine Learning Research Scientist	Harvard University	Cambridge, MA
<ul> <li>Thesis: Computation-Cautious Machine Learning Systems         <i>Masters of Science in Computer Science</i> (GPA:3.75/4)         2014 – 20         Lahore University of Management Sciences         Bachelors of Science in Computer Science (GPA:3.9/4)         2010 – 20         RESEARCH AND PROFESSIONAL EXPERIENCE         Intel Labs: Machine Learning Research Scientist         September 2021 – prese         September 2021 – prese         </li> </ul>	Doctor of Philosophy in Computer Science (GPA:3.8/4)	2014 - 2021
Masters of Science in Computer Science (GPA:3.75/4)       2014 – 20         Lahore University of Management Sciences       Lahore, Pakist         Bachelors of Science in Computer Science (GPA:3.9/4)       2010 – 20         RESEARCH AND PROFESSIONAL EXPERIENCE       Intel Labs: Machine Learning Research Scientist	Thesis: Computation-Cautious Machine Learning Systems	
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Bachelors of Science in Computer Science (GPA:3.9/4)       2010 – 20         RESEARCH AND PROFESSIONAL EXPERIENCE       Intel Labs: Machine Learning Research Scientist         September 2021 – prese	Lahore University of Management Sciences	Lahore, Pakistan
RESEARCH AND PROFESSIONAL EXPERIENCE         Intel Labs: Machine Learning Research Scientist         September 2021 – prese	Bachelors of Science in Computer Science (GPA:3.9/4)	2010 - 2014
Intel Labs: Machine Learning Research Scientist September 2021 – prese	RESEARCH AND PROFESSIONAL EXPERIENCE	
• Using deep learning techniques to improve programmer productivity and enable better hardware design (1 palication, 1 opensource software, 3 patent submissions)	<ul> <li>Intel Labs: Machine Learning Research Scientist</li> <li>Using deep learning techniques to improve programmer productivit lication, 1 opensource software, 3 patent submissions)</li> </ul>	September 2021 – present ty and enable better hardware design <i>(1 pub-</i>
Harvard University: Graduate Researcher August 2014 – May 20	Harvard University: Graduate Researcher	August 2014 – May 2021
• Designed and implemented four different systems to accelerate machine learning pipelines advancing the state of-the-art in data exploration, deep learning model design, training, and deployment (8 publications, 2 patents)	• Designed and implemented four different systems to accelerate made of-the-art in data exploration, deep learning model design, training, an Colleborated with researchers to sutemate the design of data system	chine learning pipelines advancing the state- d deployment (8 publications, 2 patents)

• Mentored nine undergraduate researchers from Harvard, CMU, and Peking University (3 publications, 1 award)

Summer 2017

Summer 2013

August 2015 - May 2019

#### Hewlett Packard Enterprise: Researcher

- Designed a technique to reduce the overhead of storing and querying network traffic data by 10× (1 patent)
- Collaborated with the engineering team to incorporate this research into their product, Arcsight

# École Polytechnique Fédérale de Lausanne (EPFL): Undergraduate Researcher

• Developed and evaluated an algorithm to incorporate community structure for social graph de-anonymization

#### NOTABLE TEACHING & LEADERSHIP EXPERIENCE

#### Harvard University: Instructor at Harvard Summer School Summer 2019

- Designed and taught Harvard's first hybrid course on data systems and machine learning (course rating: 4.8/5) • Supervised a course staff of two Ph.D. students to run the course

#### **Ashesi University**: Visiting Faculty (Archer-Cornfield Fellowship) August 2019 - June 2020

- Designed and taught three undergraduate courses on data systems and machine learning (100 students total)
- Mentored four undergraduate students on their senior-year research projects
- Lead the curriculum redesign committee to refresh the coursework for the data science and machine learning track

#### Harvard College: Resident Tutor at Quincy House

- Advised 7 Harvard College sophomores on academic matters and managed an entryway of 30 students per year
- Lead the LGBTQ+ Committee (2 tutors, 10 students)
- · Co-founded the InOlusivity initiative to improve inclusion and diversity within the residential house community

#### NOTABLE AWARDS

•	Harvard SEAS Computer Science Outstanding Ph.D. Dissertation Award (honorable mention)	2021
•	Archer-Cornfield Fellowship	2019 - 2020
•	Second place at ACM SIGMOD Research Competition (student award)	2020
•	Most Reproducible Paper Award at SIGMOD	2017
•	Dean's Honor List at LUMS + NOP Scholarship	2010 - 2014

### SELECTED PUBLICATIONS & PATENTS

Machine Programming: Turning Data into Programmer Productivity. **Abdul Wasay**, Nesime Tatbul, and Justin Gottschlich. International Conference on Very Large Databases *VLDB* 2022.

More or Less: When and How to Build Convolutional Neural Network Ensembles. **Abdul Wasay** and Stratos Idreos. International Conference on Learning Representation *ICLR* 2021.

Deep Learning: Systems and Responsibility. **Abdul Wasay**, Subarna Chatterjee, and Stratos Idreos. ACM International Conference on Management of Data *SIGMOD*, 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 Yiyou Sun Bulletin 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**, Yiyou 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.

Systems and Methods for Accelerating Exploratory Statistical Analysis. Stratos Idreos, **Abdul Wasay**, Niv Dayan. *U.S. Patent* 16,605,510. Issued on September 9, 2021.

Network Traffic Data Summarization Abdul Wasay, Alkiviadis Simitsis, Martin Arlitt. U.S. Patent 10,432,539. Issued on October 1, 2019.

#### RECENT INVITED TALKS

ICDE Diversity and Inclusion Panel2022Intel Labs, Morgan Stanley Labs, UCSD, Microsoft Research NYC, Boston University LUMS, Tableau2020-2021Google Research Accra, Ashesi University, Vertica, NetApp2018-2019

## RECENT SERVICE

Program Commitee Member: for the 6th Annual Symposium on Machine Programming (MAPS@PLDI)2022Reviewer: IEEE ICDE Industry Track, VLDB Research Track, ACM Journal of Data Science2021, 2022