

RESEARCH INTERESTS

Database Systems, HTAP Systems, Parallel & Distributed Systems, Operating Systems, Data-center Systems

EDUCATION

- École Polytechnique Fédérale de Lausanne (EPFL)** Lausanne, CH
Ph.D. in Data-Intensive Applications and Systems (DIAS) Laboratory 2018–Current
– Tentative Thesis: “Operational analytics on fresh data through elastic resource scheduling”
– Advisor: Prof. Anastasia Ailamaki
- National University of Sciences and Technology (NUST)** Islamabad, PK
B.S. in Computer Sciences, GPA: 3.81/4.00, 3rd rank in batch 2012–2016
– Thesis: “Analytics and Visualizations in OpenStack Clouds”
– Advisor: Prof. Faisal Shafait, Dr. Junaid Qadir, Dr. Usman Ilyas

PUBLICATIONS

- [1] **A. Raza**, P. Chrysogelos, A. G. Anadiotis, and A. Ailamaki, “Adaptive HTAP through elastic resource scheduling”, in *Proceedings of the 2020 International Conference on Management of Data, SIGMOD Conference 2020, online conference [Portland, OR, USA], June 14-19, 2020*, D. Maier, R. Pottinger, A. Doan, W. Tan, A. Alawini, and H. Q. Ngo, Eds., ACM, 2020, pp. 2043–2054.
- [2] **A. Raza**, P. Chrysogelos, P. Sioulas, V. Indjic, A. G. Anadiotis, and A. Ailamaki, “Gpu-accelerated data management under the test of time”, in *CIDR 2020, 10th Conference on Innovative Data Systems Research, Amsterdam, The Netherlands, January 12-15, 2020, Online Proceedings*, www.cidrdb.org, 2020.
- [3] M. Usama, J. Qadir, **A. Raza**, H. Arif, K. A. Yau, Y. Elkhatib, A. Hussain, and A. I. Al-Fuqaha, “Unsupervised machine learning for networking: Techniques, applications and research challenges”, *IEEE Access*, vol. 7, pp. 65 579–65 615, 2019.
- [4] C. Iorgulescu, F. Dinu, **A. Raza**, W. U. Hassan, and W. Zwaenepoel, “Don’t cry over spilled records: Memory elasticity of data-parallel applications and its application to cluster scheduling”, in *2017 USENIX Annual Technical Conference, USENIX ATC 2017, Santa Clara, CA, USA, July 12-14, 2017*, D. D. Silva and B. Ford, Eds., USENIX Association, 2017, pp. 97–109.

TEACHING

- **Teaching Assistant at EPFL**
 - CS-422: Database Systems* [Spring 2020]
 - CS-322: Introduction to Database Systems* [Spring 2019]
 - COM-208: Computer Networks* [Fall 2019, Fall 2020]

SKILLS

- **Programming Language:** C/C++, SQL, Python, JAVA, JavaScript, Bash
- **BigData Frameworks:** Apache Hadoop/Spark/YARN/Hive
- **Database Systems:** PostgreSQL, MySQL, Oracle, ElasticSearch, Solr
- **Debugging and Performance Analyzer:** Intel Vtunes Amplifier, Nvidia Nsight Systems, gdb, perf

RESEARCH EXPERIENCE

- École Polytechnique Fédérale de Lausanne (EPFL)** Lausanne, CH
Doctoral Assistant at DIAS Laboratory (Advisor: Prof. Anastasia Ailamaki) 2018–Current
– Topic: Adaptive HTAP Systems
- École Polytechnique Fédérale de Lausanne (EPFL)** Lausanne, CH
Summer Intern at LabOS Laboratory (Supervisor: Prof. Willy Zwaenpool, Dr. Florin Dinu) Summer 2016
– Topic: Leveraging Memory Elasticity in Apache Spark.
- National University of Sciences and Technology (NUST)** Islamabad, PK
Undergrad thesis at TULK-NUST R&D Center (Supervisor: Dr. Faisal Shafait, Dr. Junaid Qadir) 2015–2016
– Topic: Deep Learning based VM-level anomaly detection in OpenStack clouds.
- National University of Sciences and Technology (NUST)** Islamabad, PK
Research Intern at HPC Laboratory (Supervisor: Dr. Aamir Shafi) 2014–2015
– Topic: Support for Infiniband interconnect in MPJExpress.

HONORS AND AWARDS

- EPFL EDIC Ph.D. Fellowship 2018
- Best adjudged industrial final year project award at NUST SEECS Openhouse 2016
- NUST highest merit scholarship (8 semesters) 2012-2016

INDUSTRIAL EXPERIENCE

- VisionX Technologies** Islamabad, PK/ New York, USA
Software Engineer (Cloud Systems) 2017–2018
– Design and deployment of serverless cloud architecture for PackageX, a VisionX product.
– Design and deployment of enterprise CICD pipelines for streamlined development processes.
- Techlogix, Pvt. Ltd.** Karachi, PK
Software Engineer (Data Analytics) 2016–2017
– Design and prototype deployment of Cloudera based data warehouse and analytical pipelines
– Analytical dashboards with Microsoft PowerBI