

**Present Address**

5H, ECCH Lot 2  
Al Rayyan, Qatar

**MUHAMMAD YOUSUF AHMAD**

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<b>WORK</b>	<b>2017 – 2018</b>	<b>Carnegie Mellon University, Qatar (CMUQ)</b> <i>Research (developing/supervising): distributed graph analytics systems. Teaching: Database Applications (15-415).</i>	<b>Postdoctoral Research Associate</b>
	2010 – 2015	McGill University, Canada <i>4x Distributed Systems (COMP512), 3x Databases (COMP421), 2x Software Systems (COMP206)</i>	Teaching Assistant
	2008 – 2009	Environment World Company (EWC), Kuwait <i>Hardware, software, and network integration for seismic and air quality monitoring networks.</i>	Senior IT Systems Engineer

<b>EDUCATION</b>	<b>2009 - 2016</b>	<b>McGill University, Canada</b>	<b>PhD in Computer Science</b>
	2003 - 2008	Ghulam Ishaq Khan Institute (GIKI), Pakistan	BS in Software Engineering
	2000 - 2002	Chand Bagh School (CBS), Pakistan	GCE A-Levels
	1994 - 2000	International School of Pakistan (ISP), Kuwait	FBISE Matriculation

<b>INTERNSHIPS</b>	2006 - 2008	System Administrator of MPI and LTSP Labs	GIKI 4 semesters
	Fall 2007	CS Lab Instructor for courses: Compiler Construction; Web Engineering; Data Structures	GIKI 1 semester
	Summer 2006	Deployed MPI Lab (2 clusters: 6x Gentoo & 10x Debian) and LTSP Lab (35 terminals)	GIKI 2 months
	Winter 2005	Developed a data analysis application for K-EPA Air Quality Monitoring Network	EWC 1 month
	Summer 2005	Delivered campus network infrastructure survey and feasibility study of upgrade to fiber	GIKI 2 months

<b>SKILLS</b>	<b>DEV</b>	C, C++, .NET (C#/VB), Java, Objective-C, Python, PHP, BASIC, MATLAB, OpenGL, HTML/CSS, JavaScript, Django, SQL, MPI, Bash SQL Server, Postgres, MySQL, Hibernate, JGroups, Hadoop (HBase/HDFS), Cassandra, Giraph, Turi (PowerGraph), GraphX/Spark	
	<b>NET</b>	Installation & Troubleshooting of Ethernet & Wi-Fi Networks (incl. HW/SW Routers & Firewalls) and Cellular Modems & Routers Systems: Webserver (Apache, IIS, JBoss), Proxy (Squid, ICS), File Sharing (NFS, Samba), VPN, Wireshark, OPNET IT-GURU	
	<b>MISC</b>	OS/SysAdmin: Windows Server, Linux (Debian, Ubuntu, CentOS, Gentoo), Solaris 10, Cygwin, VMWare, Webmin, Ganglia, LTSP Cloud: Amazon AWS (EC2, S3)	Design: Flash, Photoshop, CorelDraw, AutoCAD, Visio

<b>TALKS</b>	• Conducted workshops on Python and Robotics (vision-based navigation) for secondary and high school students. CMUQ; 2017-18
	• Presented paper + poster “Compaction Management in Distributed Key-Value Datastores” at VLDB + SoCC. Hawaii; Sep 2015
	• Presented paper “Transactional failure recovery for a key-value store” in ACM Middleware. Beijing; Dec 2013
	• Delivered tutorials on Web Services and lectures on Hadoop (HBase/HDFS) in COMP 512 (Distributed Systems). McGill; 2012-13
	• Conducted workshops on C++ and Extreme Programming (test-driven development & refactoring). GIKI; Spring 2007
	• Delivered presentation on “A Linux PC Lab on LTSP” representing GIKI at ICOST 2006. UET Lahore; Winter 2006
	• Delivered seminar on “How to Setup a Cluster in 15 Minutes” for ACM’s All-Pakistan Event, SOFTCOM. GIKI; Fall 2006

<b>PAPERS</b>	• MY <a href="#">Ahmad</a> et al.: <b>LA3: A Scalable Link- and Locality-Aware Linear Algebra-Based Graph Analytics System</b> . (Accepted: VLDB 2018)
	• JV D’silva et al.: <b>Secondary Indexing Techniques for Key-Value Stores: Two Rings to Rule Them All</b> . EDBT/ICDT Workshops 2017
	• R Jiménez-Peris et al.: <b>CumuloNimbo: A Cloud Scalable Multi-tier SQL Database</b> . IEEE Data Eng. Bull. 38(1): 73-83 (2015)
	• MY <a href="#">Ahmad</a> , B Kemme: <b>Compaction Management in Distributed Key-Value Datastores</b> . PVLDB 8(8): 850-861 (2015)
	• MY <a href="#">Ahmad</a> et al.: <b>Transactional Failure Recovery for a Distributed Key-Value Store</b> . Middleware 2013: 267-286

<b>PROJECTS</b>	• Developed a scalable, distributed, high-performance, linear algebra-based graph analytics system (in C++/MPI) that outperforms all popular and state-of-the-art graph analytics platforms on various benchmarks on real and synthetic datasets. CMUQ, 2017.
	• Developed a solution for HBase to outsource compactions to a dedicated server and introduced smarter cache warmup strategies, resulting in significant performance improvements for high-throughput OLTP workloads running in the Cloud. McGill, 2014.
	• Designed and supervised an upgrade of the KNSN RDAS for switching to 3G/LTE with newer cellular routers. EWC, 2013
	• Developed a transactional implementation of HBase in collaboration with SAP, Yahoo, UPM, UMinho, Forth, and Flexiant as part of the EU FP7 CumuloNimbo project for developing a transactional platform for the Cloud. McGill, 2010-2013.
	• Upgraded the Remote Data Acquisition System (RDAS) of the Kuwait Seismic Network (KNSN) at KISR to UMTS/EDGE. EWC, 2008
	• Developed (Senior-Year Project) a prototype that collects and uploads data from traffic sensors to a web-based database application (via HTTP/GPRS). Real-time and predicted congestion is calculated, mapped, and plotted. (VC#.NET). GIKI, 2007
	• Workstation Renewal Project (WoRP): Deployed 2 Linux Clusters: Sun UltraSparc (64-bit) / Sparcstation (32-bit) [10 Nodes, Debian GNU/Linux] and SGI MIPS (32-bit) [6 Nodes, Gentoo Linux] for a Parallel Programming Lab using LAM-MPI for MPI Programming; Deployed the LTSP Project [x86 Server, Debian GNU/Linux] for a Computer Lab of 35 Workstations. GIKI, Summer 2006