Curriculum Vitae

◆ *Personal*

Name	Minhaj Ahmad Khan	
Father's name	Ahmad Yar Khan	
Qualification	Ph.D. Computer Science (Univ. of Versailles, France). Post-doc (Univ. of Bordeaux-I, France).	
Employment Status	Associate Professor (Department of Computer Science, Institute of Computing, Bahauddin Zakariya University, Multan)	
Res. Address	H.No. 10-D-21/8 St. No.4 Haideria Road Gulgasht Colony, Multan, Pakistan.	
Phone#	(Mob.): (+92) 300 6324262 (Office): (+92) 61-9210134	
Date of Birth	1st January, 1978.	
E-mail	**mik@bzu.edu.pk, minhajahmad@gmail.com**	

◆ *Educational Career*

Post-Doc. (Computer Science) – 2010
University of Bordeaux-I, France.

Research Topic: *Performance Optimization for Modern Heterogeneous Architectures*
Post-doc was funded through International Erasmus Mundus (EMMA) scholarship.

Ph. D. (Computer Science) – 2008
University of Versailles Saint-Quentin-en-Yvelines, France

Ph.D. Thesis: *Code Specialization Strategies for High Performance Architectures*
Thesis was defended on June 24, 2008 with Distinction -- **Très Honorable.**
Jury Members: William Jalby, Professor, University of Versailles, France.
Albert COHEN, Research Director, *INRIA Saclay, France.*
Tanguy RISSET, Professor, *INSA, Lyon, France.*
Henri-Pierre Charles, Assistant Professor, *University of Versailles, France.*
Gabriel DOS REIS, Assistant Professor, Texas University, USA.

MS (MASTER-2) (Computer Science) -- 2005
University of Versailles Saint-Quentin-en-Yvelines, France

MS Thesis: *Dynamic Compilation and Optimizations for FFTW and Arithmetic Expressions*
Thesis was defended in September 2005. Obtained **3rd Position** in MS with 69.6 % marks (1st Division).

M. Sc. (Computer Science) -- 1997
Bahauddin Zakariya University Multan, Pakistan.

M.Sc. Thesis: *Urdu Dos Command Interpreter*
Obtained **2nd Position** in M.Sc. With 74.3% marks (1st Division).

B. Sc. (Math A&B, Phy.)	B.Z.U Multan, Pakistan.	**1995**	79.5% marks (1st Division)
F. Sc. (Pre-Engg.)	G.C.B.R. Multan, Pakistan.	**1993**	69.2 % (1st Division)
Matric.(Science)	G.C.S, Multan, Pakistan.	**1991**	76.7% (1st Division)

◆ *Certifications/Training*

SCJP (Sun Certified Java Programmer), 2000 – International certificate by SUN, USA. 89 % marks -- **1st Position** among the faculty members of Punjab trained through PITB.
PITB Faculty Training Program for Java, held in October 2000 at U.E.T. Lahore/Islamabad,. 88 % marks -- **1st Position** among the faculty members of Punjab.

◆ Major Subjects Taught

Parallel and Distributed Computing, Theory of Programming Languages, Concurrent Programming with Java, Object-Oriented Programming with C++, Advanced Object-Oriented Programming with Java, Client/Server Programming on Internet using ASP / JSP / PHP / Servlets, System Software, Structured Programming using C, Business Data Processing using COBOL, Web Publishing.

◆ *Publications*

S#.	*Journal Publications*	*HEC Category*
1.	A Cost-Effective Power-Aware Approach for Scheduling Cloudlets in Cloud Computing Environments, ***The Journal of Supercomputing***, Vol. 78(1) Springer, USA, 2022. Minhaj Ahmad Khan	W
2.	An Efficient Energy-Aware Approach for Dynamic VM Consolidation on Cloud Platforms, ***Cluster Computing***, Vol. 24(4) Springer, USA, 2021. Minhaj Ahmad Khan	W
3.	Optimized Hybrid Service Brokering for Multi-Cloud Architectures, ***The Journal of Supercomputing***, Vol. 76(1) Springer, USA, 2020. Minhaj Ahmad Khan	W
4.	Cloud Adoption for E-learning: Survey and Future Challenges, ***Education and Information Technologies***, Vol. 25(1) Springer, Switzerland, 2020 Minhaj Ahmad Khan and Khaled Salah	W
5.	EncCD: A Framework for Efficient Detection of Code Clones, ***The International Arab Journal of Information Technology***, Vol. 16(5), 3693-3711, Zarqa Univ., Jordan, 2019. Minhaj Ahmad Khan	W
6.	Towards Efficient XML Parsing through Minimization of JVM Parameter Space, ***The Journal of Supercomputing***, Vol. 75(7) Springer, USA, 2019 Minhaj Ahmad Khan	W

7.	IoT Security: Review, Blockchain Solutions, and Open Challenges, ***Future Generation Computer Systems***, Vol. 82, Elsevier, Netherlands, 2018 Minhaj Ahmad Khan and Khaled Salah	W
8.	Scheduling Heterogeneous Systems using Relative Latencies, ***Arabian Journal for Science & Engineering***, Vol. 43, Springer, USA, 2018 Minhaj Ahmad Khan	W
9.	JSOPT: A Framework for Optimization of JavaScript on Web Browsers, ***Mehran University Research Journal of Engineering & Technology***, Vol. 37, 2018 Muhammad Waqas and Minhaj Ahmad Khan	X
10.	Task Scheduling for Heterogeneous Systems using an Incremental Approach, ***The Journal of Supercomputing***, Vol. 73, Elsevier, Netherlands, 2017 Minhaj Ahmad Khan	W
11.	Towards an Efficient Parallel Binary Search Tree using Lock-Free Insertion, ***Pakistan Journal of Science***, Vol. 69(4), 2017 Abdul Manan Dogar and Minhaj Ahmad Khan	X
12.	Hybrid Java Parallelizer: A Framework for Parallelization of Java Code, ***Pakistan Journal of Science***, Vol. 69(4), 2017 Adeel Iqbal and Minhaj Ahmad Khan	X
13.	A Transformation for Optimizing String-Matching Algorithms for Long Patterns, ***The Computer Journal***, Vol. 59(12) , New Oxford Publishers, UK, 2016 Minhaj Ahmad Khan	W
14.	A Survey of Security Issues for Cloud Computing, ***Journal of Network and Computer Applications***, Vol. 71, 11-29, Elsevier, Netherlands, 2016. Minhaj Ahmad Khan	W
15.	Efficient Parallel Compression and Decompression for Large XML Files, ***International Arab Journal of Information Technology***, Vol. 13(4), 403-408, Zarqa Univ., Jordan, 2016. M. Ali Maqbool and Minhaj Ahmad Khan	W
16.	A Survey of Computation Offloading Strategies for Performance Improvement of Applications Running on Mobile Devices, ***Journal of Network and Computer Applications***, Vol. 56, Elsevier, Netherlands, 2015. Minhaj Ahmad Khan	W
17.	Analysis of Resource Reservation Protocol (RSVP) for P2P Networks, ***Pakistan Journal of Science***, Vol. 65, Issue 3, PAAS, Pakistan, 2013. Minhaj Ahmad Khan, G.A. Mallah and A. Karim	Y
18.	A Hierarchical Specialization Approach for Generating Optimized Sorting Code**,**	W

	Arabian Journal for Science and Engineering (AJSE), Vol. 39, Issue 10, pp 7039-7048, Springer, Berlin Heidelberg, Germany, 2014. Minhaj Ahmad Khan	
19.	A Quantitative Analysis of Firewall Impact on Critical Data Communication, ***Journal of Basic and Applied Sciences***, Vol. 9 (2013), pp. 11-15 http://dx.doi.org/10.6000/1927-5129.2013.09.02, LifeScience Global, 2013. Minhaj Ahmad Khan	Y
20.	Scheduling for Heterogeneous Systems Using Constrained Critical Paths, ***Parallel Computing***, Vol 38 (4-5), pp. 175-1933, Elsevier, Netherlands, 2012. Minhaj Ahmad Khan	W
21.	Performance Analysis of QoS Classes for ATM Networks Running Diverse Applications, ***The Nucleus Journal***, Vol. 49(2), pp. 139-147, NCLEAM, Pakistan, 2012. Minhaj Ahmad Khan	Y
22.	Evaluation of Basic Data Compression Algorithms in a Distributed Environment, ***Journal of Basic and Applied Sciences***, Vol. 8 (2), pp. 362-365, http://dx.doi.org/10.6000/1927-5129.2012.08.02.18, LifeScience Global, 2012. Minhaj Ahmad Khan	Y
23.	Application Specific Performance Analysis of Frame Relay Network Using PVCs, , ***The Nucleus Journal***, Vol. 49(4), pp. 299-308, NCLEAM, Pakistan, 2012. Minhaj Ahmad Khan	Y
24.	Fragmentation Analysis For Scalable Wireless Local Area Networks, ***Journal of Basic and Applied Sciences***, Vol. 8 (2), pp. 451-455, http://dx.doi.org/10.6000/1927-5129.2012.08.02.32, LifeScience Global, 2012. Minhaj Ahmad Khan	Y
25.	A Comparative Study of Garbage Collection Techniques in Java Virtual Machines, ***Sindh University Research Journal (SURJ)***, Vol. 44(4), 2012. Sajid Iqbal and Minhaj Ahmad Khan	Y
26.	Improving Performance Through Deep Value Profiling and Specialization with Code Transformation, ***Computer Languages, Systems and Structures***, Volume 37 (4), Elsevier Publishers, Netherlands, 2011. Minhaj Ahmad Khan	W
27.	Behaviour of Routing Protocols for Medium to Large Scale Networks, ***Australian Journal of Basic and Applied Sciences***, Vol. 5(6), pp. 1458-1463, INSIPUB Publishers, 2011. Ahmad Karim and Minhaj Ahmad Khan	-
28.	Towards Automation of Sorting Implementations for SIMD Architectures, ***Australian Journal of Basic and Applied Sciences***, Vol. 5(9), pp. 1605-1613, INSIPUB	-

	Publishers, 2011. Minhaj Ahmad Khan	
29.	Data Cache Prefetching with Dynamic Adaptation, ***The Computer Journal***, Vol. 54(5), pp. 815-823, Oxford University Press Publishers, UK, 2011. Minhaj Ahmad Khan	W
30.	Feedback-directed Specialization of Code***, Computer Languages, Systems and Structures***, Elsevier Science Publishers. Volume 36 , Issue 1 (April 2010), Pages 2-15. Minhaj Ahmad Khan	W
31.	Improving Performance of Optimized Kernels Through Fast Instantiations of Templates, ***Concurrency and Computation: Practice and Experience***, Vol. 21, Issue 1, 2008. Publisher: John Wiley & Sons, (Revised version of paper in CPC 2007). Minhaj Ahmad Khan, Henri-Pierre Charles and Denis Barthou	W
	Editorial	
32.	Green Cloud and Fog Computing: Energy Efficiency and Sustainability Aware Infrastructures, Protocols, and Applications***, IEEE Access***, IEEE, USA, Volume 6 , 2018. Minhaj Ahmad Khan, Tariq Umer, Samee U. Khan, Shui Yu, Abderazzak Rachedi	W
S#.	***Book Chapters, Conferences and Workshops***	
1.	A Feedback-directed Approach to Optimization of Loops. Minhaj Ahmad Khan :: In Proceedings of 14th workshop on Compilers for Parallel Computing, CPC-2009, Zurich, Switzerland, Jan.7-9, 2009.	
2.	Optimizing Code Through Iterative Specialization. Minhaj Ahmad Khan, Henri-Pierre Charles and Denis Barthou :: In SAC '08, In Proceedings of the 2008 ACM Symposium on Applied computing, ACM SAC 2008, Fortaleza, Brazil, pages 206-210, Publisher: ACM NY, USA, 2008.	
3.	Improving Multimedia Applications Through Specialization of IDCT/IDCT Kernels. Minhaj Ahmad Khan and Henri-Pierre Charles :: In Proceedings of IEEE International Conference on Signal Processing and Communication (ICSPC07), UAE, Nov. 2007, Publisher: IEEE.	
4.	An Effective Automated Approach to Specialization of Code. Minhaj Ahmad Khan, H.-P.Charles and Denis Barthou :: In Proceeding of the 20th International Workshop on Languages and Compilers for Parallel Computing, October 11-13, 2007, Urbana, Illinois, USA. October 2007. To appear in Journal: "Lecture Notes in Computer Science", LNCS, Springer-Verlag, 2008.	
5.	Reducing Code Size Explosion Through Low-overhead Specialization.	

	Minhaj Ahmad Khan, H.-P.Charles and Denis Barthou :: In Proceedings of the 11th Annual Workshop on the Interaction between Compilers and Computer Architecture (INTERACT-11), February 2007, Phoenix, Arizona, USA.	
6.	Hybrid Specialization : A Trade-off Between Static and Dynamic Specialization. Minhaj Ahmad Khan, Henri-Pierre Charles and Denis Barthou :: Extended Abstract, In proceedings of the IEEE/ACM Sixteenth International Conference on Parallel Architectures and Compilation Techniques (PACT), Sept 2007, Brasov, Romania. Publisher: IEEE.	
7.	Applying Code Specialization to FFT Libraries for Integral Parameters. Minhaj Ahmad Khan and H.-P. Charles :: In Proceeding of the 19th International Workshop on Languages and Compilers for Parallel Computing, November 2-4, 2006, New Orleans, Louisiana, USA. November 2006. In Journal: "Lecture Notes in Computer Science" LNCS, Vol. 4382., Springer-Verlag, 2007.	
8.	Improving Performance of Optimized Kernels Through Fast Template-based Specialization. Minhaj Ahmad and Henri-Pierre Charles :: In Proceedings of 13th Workshop on Compilers for Parallel Computers, CPC 2007, Lisbon, Portugal, July 2007.	
9.	Behaviour of Routing Protocols for Medium to Large Scale Networks. Ahmad Karim and Minhaj Ahmad Khan :: In International Conference on Computers and Emerging Technologies, (Extended version in Australian Journal of Basic and Applied Sciences Vol. 5(6), 2011).	

◆ *Computer Languages Used*

CUDA for GPU, Java, Python, C/C++, Visual Basic, COBOL, Assembly Language, Pascal, Foxpro, ASP, JSP, PHP, Servlets, ColdFusion.

◆ *Ongoing Research Projects*

Scheduling Cloudlets using Multi-Objective Optimization
The project is aimed at scheduling cloudlets in a cloud environment using multi-objective optimization. Considering various constraints, the approach being devised will perform mapping of cloudlets to virtual machines, while minimizing monetary cost, power consumption and schedule length. The user requests can then be processed efficiently in large cloud based infrastructures.
Power-aware Optimization of Mathematical Code
This project targets code optimization using dynamic voltage and frequency scaling (DVFS) based technique. Subsequent to flow analysis, a mathematical model is being proposed to generate optimized code for architectures supporting DVFS. The code will dynamically adapt at runtime to minimize power consumption and enhance performance simultaneously.

◆ *Prominent Software Developed*

CEFT
The CEFT scheduler uses heuristic based approach for scheduling tasks for applications executing on heterogeneous multi-processor architectures. It uses task graphs, execution and communication latencies to generate a schedule.
HySpec
It is a prototype developed (during Ph.D.) for optimizing code through *Hybrid Specialization*. It makes use of a generic template to obtain optimized code at runtime. The binary code of the template is then modified during execution. Software is developed using C & Assembly language and supports instruction sets of Intel (IA-64, IA-32), UltraSparc, and PowerPC architectures.

◆ *Job Experience*

- More than 23 years of teaching/research experience including **20 years of teaching experience at Bahauddin Zakariya University, Multan**. Details are as under:

Institute	Designation	Status	Employment Dates		Job
			From	To	
Bahauddin Zakariya University Multan	Associate Professor (Computer Science)	Permanent	01.01.2014	date	Teaching Ph.D., MS, MCS & BCS
Bahauddin Zakariya University Multan	Assistant Professor (Computer Science)	Permanent	17.12.2011	31.12.2013	Teaching MS, MCS & BCS
Bahauddin Zakariya University Multan	Lecturer (Computer Science)	Permanent	06.09.2009	16.12.2011	Teaching MS, MCS, BCS & MIT classes
Bahauddin Zakariya University Multan	Assistant Professor-Temporary (Computer Science)	Permanent	06.03.2009	05.09.2009	Teaching MS, MCS & BCS
Bahauddin Zakariya University Multan	Lecturer (Computer Science)	Permanent	06.04.2001	05.03.2009	Teaching MS, MCS, BCS & MIT classes
Bahauddin Zakariya University Multan	Lecturer (Computer Science)	Visiting	Nov. 2000	April 2001	Teaching MCS & BCS classes
FACS College, Multan	Lecturer (Computer Science)	Permanent	01.08.1998	03.04.2001	Teaching B.Sc. & ICS classes
CPS (Affiliated Al-Khair University)	Lecturer (Computer Science)	Visiting	01.02.1998	01.02.1999	Teaching MCS classes
New Oxford Degree College (Affiliated with Allama Iqbal Open University)	Lecturer (Computer Science)	Visiting	01.02.1998	01.04.1999	Teaching BCS classes

◆ *Administrative Experience*

Chairman, Department of Computer Science from 10-05-2016 to date
Teacher-Incharge, Department of Telecommunication Systems from 31-05-2013 to 06-05-2016
HoD, Department of Computer Science from 21-04-2009 to 08-09-2009

◆ *References*

Dr. Henri-Pierre Charles	**Dr. Amanullah Khan**
Research Director (Computer Science) CEA-LIST, France. **henri-pierre.charles@cea.fr**	Professor, Deptt. of Computer Science, Air University, Multan Campus, Pakistan. **auk@aumc.edu.pk** (+92 300 6332622)
Dr. William Jalby	**Dr. Denis Barthou**
Professor, University of Versailles, France. **william.jalby@uvsq.fr** (+33 139 254 086)	Professor, ENSEIRB, University of Bordeaux-1, France. **denis.barthou@labri.fr** (+33 524 574 116)