

## Azeem Javed Khan

---

CONTACT INFORMATION	<p>Oriental Institute of Management Plot No. 149, Sector 12, Vashi, Navi Mumbai, 400703. INDIA.</p>	<p><i>Tel:</i> +91-6691-4406 <i>Fax:</i> +91-6691-4407 <i>E-mail:</i> azeem@oes.ac.in</p>
CITIZENSHIP	India	
RESEARCH INTERESTS	Computer networks, Mobile Computing, Computer architecture analysis and design, Algorithms and Engineering education	
EDUCATION	<p><b>Indian Institute of Technology Bombay</b>, Mumbai, India</p> <p>Ph.D., Computer Science and Engineering (2011)</p> <ul style="list-style-type: none"><li>• Thesis Title: <i>A Distributed Open Software Router: Analysis and Architectures</i></li><li>• Advisors: Prof. D. Manjunath and Prof. Anirudha Sahoo</li><li>• Area of Study: Distributed computing in routers built on open source software and open hardware.</li></ul> <p><b>Columbia University</b>, New York, USA</p> <p>M.S., Electrical Engineering, May 2000</p> <p><b>V.J.T.I., University of Mumbai</b>, Mumbai, India</p> <p>B.E., Electronics Engineering, June 1998</p>	
ACADEMIC EXPERIENCE	<p><b>Singapore Management University</b>, Singapore</p> <p><i>Research Fellow</i></p>	<p><b>July 2011 - Jan 2013</b></p> <ul style="list-style-type: none"><li>• Indoor Localization: Engaged in developing novel fingerprint and non-fingerprint based techniques for the area of indoor localization. Led a team of research engineers to implement a solution that provides <math>\pm 4</math> metre accuracy on Android smartphones in real buildings in Singapore. Additionally helped implement a working cloud assisted solution for iOS devices on SMU campus.</li><li>• CAMEO: A new architecture proposal for advertisement delivery on smartphones to reduce delivery costs for wireless telecom operators and to reduce the burden on metered wireless data plans of consumers. Implemented a prototype version in Android user space which was demoed at Mobisys 2012.</li><li>• LiveLabs: A framework residing both in the smartphones and in the cloud that enables near realtime analytics on consumer behaviour with smart algorithms powering the identification and classification of consumer activity. Led a team of PhD students on architecture and design and collaborated on implementations of ancilliary projects.</li></ul> <p><b>Indian Institute of Technology Bombay</b>, Mumbai, India</p> <p><i>Research Engineer</i></p>
		<p><b>January 2005 - December 2008</b></p> <ul style="list-style-type: none"><li>• Helped implement a national experimental testbed to evaluate QoS over WAN across India. Eight different institutes all over India were part of this experiment over the ERNET. Co-designed and co-architected a solution to integrated the IIT Bombay campus PBX with other institutes' PBXes over WAN using open source software and custom developed software.</li><li>• In Spring 2005, conducted experiments on performance of Intel Centrino wireless chipsets in closed indoor environments. Performed data analysis, prepared detailed documentation and presented results and conclusions.</li></ul> <p><b>University of Mumbai</b>, Mumbai, India</p>

- Instructor for the C# programming language Fall 2004
  - Responsible for 3 hours lectures every week, biweekly assignments and evaluations, laboratory practicals, all semester tests and their evaluations.
- Instructor for Basic Electronic Devices and Circuits Fall 2004
  - Responsible for 3 hours lectures every week, monthly assignments and evaluations, laboratory simulations and experiments, all semester tests and evaluations.
- Instructor for Computer Organization and Design Spring 2004
  - Responsible for 4 hours lectures every week, biweekly assignments and their evaluations and mid-semester exams and evaluations.
  
- Lab Instructor for Analysis of Algorithms Spring 2004
  - Responsible for 0.25 hour lecture and supervision of 3.15 hour laboratory where sophomore undergraduate students wrote programs in C++ implementing the data structures and algorithms taught in the classroom
  - Developed supplementary course material encouraging students to apply known algorithms to problems appearing in real life.

PUBLICATIONS  
AND DEMOS

- K. Muralidharan, A. Khan, A. Misra, R. Balan and S. Agarwal, Barometric Phone Sensors – More Hype than Hope, *To appear in the Proceedings of the Fourteenth Workshop on Mobile Computing Systems & Applications (HotMobile 2014)*, San Diego, U.S.A., Feb 2014.
- A. Khan, K. Jayarajah, D. Han, A. Misra, R. Balan and S. Seshan, CAMEO: A Middleware for Mobile Advertisement Delivery, *Proceedings of the 11th international conference on Mobile systems, applications, and services (Mobisys 2013)*, pp. 125–127, Taipei, Taiwan R.O.C., June 2013.
- A. Khan, V. Ranjan, T. Luong, R. Balan and A. Misra, Experiences with Performance Tradeoffs in Practical, Continuous, Indoor Localization, *Proceedings of the The Fourteenth International Symposium on a World of Wireless, Mobile and Multimedia Networks (WoWMoM 2013)*, pp. , Madrid, Spain, June 2013.
- A. Khan, V. Subbaraju, A. Misra and S. Seshan, Demo: Context driven advertisement optimizer, *Proceedings of the 10th international conference on Mobile systems, applications, and services (Mobisys 2012)*, pp. 487–488, Low Wood Bay, Lake District, UK, June 2012.
- A. Khan, V. Subbaraju, A. Misra and S. Seshan, Mitigating the True Cost of Advertisement-Supported “Free” Mobile Applications, *Proceedings of the Twelfth Workshop on Mobile Computing Systems & Applications (HotMobile 2012)*, pp. 1–6, San Diego, California, Feb 2012.
- A. Khan, A. Sahoo and D. Manjunath, Implementation of WFQ in a Distributed Open Software Router, *Proceedings of the 36th IEEE Local Area Networks Conference*, pp. 519–527, Bonn, Germany, Oct. 2011.
- N. Athaide, A. Khan, D. Manjunath and A. Sahoo, Trie Partitioning in Distributed PC Based Routers, *Proceedings of the First International Conference on Communications Systems and Networks* , pp. 1–10, Bengaluru, India, Jan. 2009.
- A. Khan, R. Birke, D. Manjunath, A. Sahoo, and A. Bianco, Distributed PC based routers: Bottleneck analysis and architecture proposal, in *Proceedings of High Performance Switching and Routing 2008*, pp. 57–62, Shanghai, China, May 2008.
- A. Bianco, R. Birke, J.M. Finochietto, L. Giraudo, F. Marenco, M. Mellia, A. Khan and D. Manjunath, Control and management plane in a multi-stage software router architecture, in *Proceedings of High Performance Switching and Routing 2008*, pp. 235-240, Shanghai, China, May 2008.

PROFESSIONAL  
EXPERIENCE

**Motorola**, Arlington Heights, Illinois USA

*Senior Software Engineer in Global Telecom Solutions Sector* **March 2000 to April 2003**

- Wrote code for call processing inside the Mobile Switching Centre for CDMA 3G IS2000, specifically stable call and hard handoffs. Assisted in all aspects of testing, debugging and on-site support
- Used C++ with VxWorks RTOS.
- Helped create an automated testing framework (using Python/Tcl), performed regression testing (using Python /Perl) before handover and performance testing.
- Mentored juniors and peers from other functional areas; gave presentations to peers and upper management on technical and process improvement aspects; created workshops to encourage and develop better processes and methodologies. Was awarded the Bravo award twice. Chosen twice as principal contact for first integration testing.
- Functioned as technical lead towards end of project. Led an investigation to absorb the best practices of extreme programming and agile methods.

Created tools to automatically track validated requirements and check against minimum handover requirements.

### **Microsoft Research India**, Bengaluru, India

*Intern in Mobile and Networking Systems Group* **May 2009 to October 2009**

- Researched ideas on automated diagnostic and potential solutions of network faults from network traces.
- Participated in experiments conducted by other research teams .

**TECHNICAL SKILLS** Extensive hardware and software experience in networking, information technology, and system administration.

- *Hardware:* Comfortable with IBM compatible PCs. Have limited experience of development on the ARM (Android) platform, Sun Sparcs and Power PCs. Have done extensive work on embedded system environments.
- *Software:* Comfortable with Linux for development. User of Microsoft Windows since version 3.1 and DOS 5.0. Using Linux since kernel 1.2. Limited experience with MacOS.
- *Programming:* Comfortable with C and C++. Improving on Java. Working knowledge of Perl, PHP, HTML, CSS. Limited knowledge of shell scripting.

### **VISITS AND CONFERENCES AND MEETINGS**

- Presented our research work on mobile advertising at Mobisys'13 held in Taipei in June 2013. Was awarded the maximum travel grant to attend the conference.
- Demonstrated an implementation of our research project on mobile advertising—CAMEO at Mobisys 2012 held in Low Wood Bay, UK in June 2012.
- Presented a paper on my research at the 36th IEEE Local Area Networks Conference, Bonn, Germany in October 2011. Was selected as *one of the only two* students given travel grant to attend the conference.
- Received the best PhD research presentation award at the 3rd International Conference on Communications Systems and Networks (COMSNETS 2011), in Bangalore India, in January 2011. Also acted in the role of a conference volunteer.
- Attended the ACM SIGCOMM 2010 Conference in New Delhi, Aug-Sep 2010.
- Attended the Microsoft Research Summer School on Networking at Bengaluru, India in June 2009.
- Attended the First International Conference on Communications Systems and Networks (COMSNETS 2009) in Bangalore, India in January 2009 .
- Attended the Second International Symposium on Advanced Networks and Telecommunications Systems (ANTS 2008) in Mumbai, India in December 2008.
- Presented a paper on my research at the IEEE Workshop on High Performance Switching and Routing 2008 , Shanghai, China in May2008.
- Attended the Fourteenth National Conference on Communications (NCC 2008) in Mumbai, India in Feb 2008.
- Presented my research at the Inter IIT COMNET meet of PhD students in IIT Chennai in November 2007.
- Attended the nineteenth meeting of the World Wireless Research Forum in Chennai, India in November 2007.
- Visiting researcher to Politecnico Di Torino during Sept. 2006 to Oct. 2006 in Turin, Italy. Worked on a joint research project with Prof. Andrea Bianco and other PhD students. A report on my work was submitted to the Indian and Italian government departments facilitating the exchange.

### **REFERENCES**

Available upon request.