



I am

Name:	Dr. Basit Ahmed Khan
Mobile #:	+92 321 8854982
Email:	bakhan@kth.se
Date of Birth:	July 16, 1982
Nationality:	Norwegian

The links used in my CV will not open from outside Pakistan, I will be glad to give presentation

A brief summary of my education, skills, strengths and experience include:

- **PhD in Information Technology** with special interest in the application of Advanced Distributed Multitagent Software system in citywide user context this also included geographical user information Systems – from – Norwegian University of Science and Technology (NTNU), Trondheim, Norway
- **Master of Science in Information Technology** (*Specialization Software engineering of Distributed System*) – from – Kungliga Tekniska Högskolan (KTH), Royal Institute of Technology, Stockholm, Sweden
- **Bachelor of Science in Computer Science** – from – University of Management and Technology, Lahore, Pakistan

- **Managing and Leading a Software Development Team of 20** in-house software Managers / Developers / DB Admins / Web-Frontend Designers
- **Managing and Leading a team of 45 Field Engineers** who were responsible for executing the field operations using the software systems developed by the Software Development Team
- **Have Designed, Architected, Developed, Implemented and Executed Several Software Projects** involving thousands (1000s) of user belonging to different user groups while dealing with complex on ground problems/issues

- Understands the governance and bureaucratic structure at provincial level in Public sector
- Knows and understand the pivotal role ICT can play in solving service delivery issues in multiple social sectors

- Have been actively reviewing of Pakistan's Punjab Govt Intervention in ICT Sector
- Delivers Presentations at National Management College, Lahore, Pakistan
- Actively engages in Business Development for the Company
- Have worked as **Scientist** for an Information technology based **European Union (EU) project**. While working at **Austrian Academy of Sciences** in **Austria**. This project included project partners such as FIAT cars, SAP Germany along many other industrial and academic units from all over Europe.
- Working as **Senior Specialist ICT** at Urban Unit
- Have worked for almost 6 years as **Information Technology Advisor** in **Norway**, where I am responsible for important projects. These projects deal with managing and maintaining huge amount of sensitive data from all over Norway. Our unit is responsible for delivering the statistical reports for cancer in Norway each year.
- Have worked with the task scheduling in the industrial environment.
- During my PhD I have designed system and services, which uses geo-position and citywide user context.
- Have **traveled and worked internationally** and have experience in dealing with different kind of personalities and situations.
- Practical experience of software designing and development and maintenance
- Have worked with projects **dealing information security and sensitive data** (i.e. Where Security is crucial)
- Effective communication skills, self-motivated, ability to learn quickly, well organized, punctual and regular
- Have done teaching duties at the University Level in Norway

Personal Summary

Highest Education: PhD-Information Technology (Specialization Distributed Systems)

Personal Qualities: Excellent Communication, Quick to Analyze Details, Ability to Generalize, Quick Learner, Punctual, Regular, Persistent and Hardworking

Looking For: Professional Development, Challenging Work Environment, Important Responsibilities, and Community Contribution

Work Experience

Position Title: Senior Specialist – Information Technology **07.2017 → continued**
Employer: The Urban Unit **Lahore, Pakistan**

My work done at Urban Unit can be accessed at this link <http://systems.urbanunit.gov.pk>

Position Title: Information Technology Advisor **01.2012 – 30.06.2017**
Employer: Cancer Registry of Norway **Oslo, Norway**
Permanent Job in Norway

Position Title: Research Fellow / Solution Architect Designer **07.2007 – 12.2011**
Employer: Norwegian University of Science and Technology **Trondheim, Norway**
Contract Based Job in Norway

Position Title: Visiting Researcher **02.2011 – 08.2011**
Employer: Kungliga Tekniska Högskolan (KTH), Royal Institute of Technology **Stockholm, Sweden**
Posted in Sweden (Contract Based Job in Norway)

Position Title: Scientist/Developer–European Union Project (*Partners SAP, FLAT, Universities*) **05.2006 – 07.2007**
Employer: Austrian Academy of Sciences **Vienna, Austria**
Contract Based Job in Austria

Education

Doctor of Philosophy in ICT (specialization in Distributed Software Systems) **07.2007 - 12.2011**
University: Norwegian University of Science and Technology (NTNU) **Trondheim, Norway**
CGPA: Above B, **Degree Type:** IT - University, PhD degree

Master of Science in IT (Software Engineering of Distributed Systems) **07.2005 - 12.2006**
University: Kungliga Tekniska Högskolan (KTH), Royal Institute of Technology **Stockholm, Sweden**
CGPA: 4.5/5.0, **Degree Type:** IT - University, Master degree

Bachelor of Science in Computer Science **08.2001 - 04.2005**
University: University of Management and Technology **Lahore, Pakistan**
CGPA: 3.56/4.0, **Degree Type:** IT - University, Bachelor degree

Professional Skills

Interpersonal/Communicational Skills: Adjusting, Social, Have delivered Courses, Have managed several work groups and IT Projects

Programming Expertise Enterprise Level: Java, Java RMI, Spring, Jasper Reports, JADE, Android, C/C++, C#, FORTRAN, XML, Several Apache Common Libs, Xpath

Web Development: Vaadin, JSP, Servlets, HTML, XML Data Representations, Google JASON

Databases Skills: SQL language for querying the Databases. “Hibernate, Query DSL” for programmatically integrating databases with Systems. Have worked with “MariaDB, MySQL DBMS, MS SQL DBMS”. Some tools which I have used “DB Schema, MySQL Workbench, MS SQL server tools”.

Security: Shiro, Fail0Ban, Linux firewall IPTables, Active Directory Server Integration.

Enterprise integration and Data Handling: Camel, Java Webservices, ActiveMQ

Web-Servers: Tomcat, GlassFish, Apache HTTP, Nginx, IIS

Operating Systems: Linux, Windows, MAC OS

Tools: Eclipse, IntelliJ, Netbeans, GIT, SVN, Maven, Microsoft Office, Jenkins

GIS Tools : ArcServer, Leaflet, OpenLayers

Could, Big Data & Machine Learning Skills:

Cloud : Familiar with Amazon Web Services: Such as EC2, Route56, S3, Kinosis, Glue, Redshift, Athena, Lambda

Big Data: Familiar with Hadoop, Yarn, Spark, PIG

Machine Learning: Familiar with google TensorFlow

Others: UML, AUML, SOA, OWL, RDF, Scrum, Extreme Programming, Water Fall model. Plesk webserver Maintenance. Have maintained webserver along with SSL server certificates. Have used RedMine for Project management. Also worked with Odoo ERP solution

Selected Projects

1. Name: Clean and Green Punjab

Timeline: 09.2018 → ongoing

Context: Urban Unit – Client : Local Govt Dept Govt of Punjab

Lahore, Pakistan

Role: Solution Designer, Technical Lead/Manager, Technical Architect, System Designer

Short Description: Government of the Punjab proposed a program for Punjab entitled “Clean and Green Punjab” to uplift the living conditions in the province. The overall objectives of this project are threefold; while the overarching objective of my contribution in this program is to design, develop and implement the GIS Monitoring software including dashboards and mobile applications to monitor the activities, which are being performed in the field.

Three main types of activities which needs to be monitored through a monitoring system and mobile application are as follows

- 1- Monitoring of filed activities for Solid waste management
- 2- Monitoring of filed activities Anti-encroachment drive
- 3- Monitoring of filed activities Trees Plantation activity in Punjab

In this context several mobile applications and monitoring system are developed to reflect daily work progress. However, due the budget limitations and ongoing preparation activities the monitoring component of the program is yet to achieve maturity.

Technologies used: C# .Net, Several Apache Libraries, PHP, Apache Solr, DBMS – Postgres, Bootstrap

2. Name: Automation of Environment Department - Punjab

Timeline: 10.2017 → 07.2018

Context: Urban Unit – Client : Environment Dept Govt of Punjab

Lahore, Pakistan

Role: Solution Designer, Technical Lead/Manager, Technical Architect, System Designer

System Link : <http://systems.urbanunit.gov.pk/pemms/>

Short Description: Environment Maintenance and Management System(EMMS) is a system for the maintenance and management of the projects and industries related to environment. This system will enable the user to get EIA or IEE approval for the new projects and industries. It also enables them him to upload schedules reports related to the project/industry whose approval is required. Several types of users such as Assistant Directors, Deputy Directors, Field offices, Directors, Proponents, and consultants can use the system. The system consists of four core modules, 1) EIA/IEE approval system, 2) Complain management system, 3) Industries and Labs self Registrations, 4) Industry Registration through survey. All the core modules are integrated with four different android based mobile apps. Thus, automating the complete business processes of EPD department Punjab. The system is being finalized as a re-configurable products and shall be made available as a product for other environment departments of Pakistan and internationally.

Technologies used : PHP, Apache Solr, DBMS – Postgres, Bootstrap

3. Name: Data Driven Governance Solution – Eyris Pakistan

Timeline: 10.2017→Continued

Context: Urban Unit – Main User: Planning & Development Dept Govt of Punjab **Lahore, Pakistan**

Role: Solution Designer, Technical Lead/Manager , Technical Architect, System Designer

System link : <http://eyris.urbanunit.gov.pk>

It is the google of Pakistan; powered by its ability to search any document/image/socio-economic indicator the Eyris system contains a huge number of various datasets in several different formats. Primarily Eyris is the implementation of Framework that I developed for data sharing among Govt/public entities. Broadly speaking Eyris attempts to bring Pakistan's Data at one platform which is indexed, tabulated and visualized in graphs and maps. Several different visualization are made within this system. Supported by its rich sector datasets it supports the user to do evidence based planning and decision making. Eyris contains some 1000+ indicators that are available to the decision makers at the time of decision making. A special data structure that reflects and can handle different public sector datasets is prepared that runs at the core of Eyris system. It is also a data repository of Map, public sector documents (pc1, plans etc). Several different analytical dashboard are part of Eyris system.

Technologies used : C#, Apache Solr, DBMS, Data Analytics, Data Science tools

4. Name: Rural Development Schemes Monitoring system

Timeline: 10.2017→ 03.2018

Context: Urban Unit – Main User: Govt Punjab **Lahore, Pakistan**

Client: Local Government & Community Development (LG&CD) Department.

Role: Solution Designer, Technical Lead/Manager , Technical Architect, System Designer

System Link: <http://202.166.168.176:8974>

Short Description:

Government of Punjab launched “Local Government Development Package” for 3281 UCs and 182 MCs across Punjab. With a total cost of 11.8 billion some 8215 development schemes were launched. An online dashboard for over-viewing real time physical and financial progress was developed. Along with the analytical Dashboard for physical and financial progress monitoring; all schemes were mapped on GIS and their physical progress status is uploaded through Android Mobile Application by Union Council Secretaries, Executing Agencies and Director Developments. The Dashboard provides information at Provincial, Divisional, District, Tehsil and Union Council Level. Through the system it was possible to do evidence based monitoring of progress of development schemes covering mainly Infrastructure, and Sanitation Sectors .Real Time management of financial portfolio of the entire

program that includes Funds utilized and physical progress. Strategic level support by incorporating rich Decision Support System to ensure transparency ,better control and accountability.

Technologies used : C# Apache Solr, DBMS, Data Analytics, Data Science tools

5. Name: PWDP Planner Pakistan

Timeline: 10.2017 → 04.2018

Context: Urban Unit – Main User: PnD

Lahore, Pakistan

Project Link: <http://iris.urbanunit.gov.pk/Pdwp/PdwpHome/Index?province=1>

Role: Solution Designer, Technical Lead/Manager , Technical Architect, System Designer

Short Description: The Provincial Development Working Party (PDWP) is a highest forum where all the province-wide development schemes are discussed and evaluated before they are approved. PDWP meetings are held 02 times a week at P&D department, these meetings are chaired by the chairman P&D Board. A PDWP Record Keeping system is developed along with the mobile application. The system allows to manage and track meeting plans and agendas. It also enables to manage various types of scheme's attachments along with their versions. The system is also integrated with the Annual Development Program of Punjab. Investment/spending dashboard along with the meeting history keeping and attachment navigation are also part of the system.

Technologies used : C# Apache Solr, DBMS, Data Analytics, Data Science tools

6. Name: Saaf Dehat Program (Phase I,II and III)

Timeline: 10.2017 → 04.2018

Context: Urban Unit – Main User: Govt Punjab

Lahore, Pakistan

Project Link:

- http://systems.urbanunit.gov.pk/saafdehat_dashboard_v2/
- http://systems.urbanunit.gov.pk/saafdehat_phase2/
- http://systems.urbanunit.gov.pk/saafdehat_links/

Role: Solution Designer, Technical Lead , Technical Architect, System Designer

Short Description: Government of Punjab launched “Khadim-e-Punjab Saaf Dehat Program”. The objective of the program was to remove all the garbage heaps from rural Punjab. An GIS based work progress monitoring system was designed and implemented to monitor the work progress of cleaning activities and to ensure cleaning activities are performed throughout Punjab; thus, ensuring the total coverage. The system was integrated with the mobile app which was distributed to all the UC secretaries. The cleaning activities were performed in three phases. A new system and mobile app was implemented for each phase. During the 3rd and last phase a system consisting of 6 different web-modules and 4 different mobile apps was implemented. Additionally a separate system for monitoring the financial progress was also implemented. Several benefits were achieved through this system, 1) Evidence-based monitoring of cleaning activity. 2) Real Time reporting from field 3) Ensuring that remote locations are attended by the cleaning staff.

Technologies used : C# Apache Solr, DBMS, Data Analytics, Data Science tools, Php, arcServer, bootstrap

7. Name: PM & CM SDG Monitoring System, financial and physical

Timeline: 08.2017 → 04.2018

Context: Urban Unit – Main User: Govt Punjab

Lahore, Pakistan

Role: Project Manager

Short Description: For Achievements Of Global Sustainable Development Goals, The Execution Of A Special Development Project Called “Prime Minister’s Global Sustainable Development Goals (SDGs) is conducted at National level. Similarly the same program is replicated at the provincial level; the program is called Chief minister’s sustainable development goals. Achievement Programme” Has Been Approved for Provisioning Of Development Opportunities In Deficient Areas By Targeted Intervention. The Community Has Recommended Scheme(s) Relating to the Following Sectors/areas. Power Sector, Gas and Natural Resources, Social Sector, Municipal Sector, Infrastructure Sector. To monitor PM and CM Sustainable Development Goal Program two different dashboards are designed. The dashboard contains all levels of information of schemes progress whether physical and financial along with pictures. It is possible to drilldown to any geographic division level as maybe needed.

Technologies used : C# Apache Solr, DBMS, Data Analytics, Data Science tools

8. Land Record management and Department Automation - Federal Govt Employees Housing Foundation

Timeline: 08.2017 → continued

Context: Urban Unit – Main User: Govt Punjab

Lahore, Pakistan

Role: Project Manager

Short Description: The system is meant to automate the core business processes of FEGHF, including the property transfer, allotment and balloting. Several different types of users managed in the system.

9. Name: eProcurement System (Version 1 & 2)

Timeline: 10.2017 → 04.2018

Context: Urban Unit – Main User: Govt Punjab

Lahore, Pakistan

Role: Technical Lead , Technical Architect, System Designer

Short Description: E-Procurement system for C&W is a process automation which is highly reliable, robust, secure, scalable and user friendly. It is of equal importance for contractors, consultants and different departments. The system is developed and delivered to C&W. The developed system consists of the following modules.

- Department Module
- User Module
- ADP and Non ADP schemes Module
- Tenders Module
- Procurement Committee Module
- Bid money and bid security module
- Bidding Process Module

This system in being extended and will evolve to become a complete of the shelve product of UrbanUnit.

Technologies used : Java, Spring Boot, Spring Data, Hibernate, QueryDSL

10. Name: Document Management and Review System SaafPani-North

Timeline: 10.2017 → 04.2018

Context: Urban Unit – Main User: Govt Punjab

Lahore, Pakistan

Role: Technical Lead , Technical Architect, System Designer, programmer

Short Description: The system was implemented to automate the document/reports review process involving complex workflow. Some 40 different report types were integrated in the system. The system was able to manage all the reports types by its tehsil. Deadline and notifications were also managed in the system.

Technologies used : Java, RMI, Spring MVC, Hibernate, QueryDSL, bootstrap

11. Websites Created for

- P&D Dept – Govt of Punjab
- BOI Dept -- Pakistan Bureau of Investment – Federal, Govt of Pakistan
- President of Azad Jammu Kashmir - Govt of Pakistan (Kashmir)

12. Mobile Application Developed

Environment Protection Department

- Site Inspection Report (IEE / EIA Module)
- Complaint Information Report (Complaint Module)
- Environmental Protection Order (Complaint Module)
- Lab Inspection report

Rural Development Schemes

- (Progress Reporting) android application – UC secretaries
- (Progress Monitoring) android application – By verifiers
- **Third Party Validation (TPV) of Rural Development Package's app**

Saaf Dehat Program Phase 1

- Saaf Dehat Program (One-time Cleaning Phase 1) To monitor the cleaning activities performed by the UC Secretaries and UC Chairman in 35 districts of Punjab

Saaf Dehat Program (One-time Cleaning Phase 2)

- To monitor the cleaning activities performed by the UC Secretaries and UC Chairman in 35 districts of Punjab

Saaf Dehat Program Phase 3

- Waste Collection Sites Identification android application
- Dumping Sites Identification android application
- Dumping sites QC application
- Contractor TOR weekly Progress Reporting
- UC Secretaries weekly Progress Reporting
- Inspector's monthly progress monitoring application
- TPV consultant monthly progress monitoring application
- The assigned committees by the CM Punjab to monitor the ground conditions of villages by visiting the UCs of 35 districts of the Punjab province.

Saaf Pani Company

- Engineering Management Consultant (EMC)

Public Health Engineering Department (PHED)

- To monitor the performance of the public water health schemes in Punjab

ADP Schemes

- ADP Schemes Monitoring 2018 android application

Urban Unit Communication app

13. Name: Krefregisterets Nye Elektroniske IKT-Plattform (KNIPE)

Timeline: 01.2013 → 07.1217

Context: KrefRegisteret

Oslo, Norway

Role: Technical Architect, Developer

Short Description: There are many ICT systems at Krefregisteret. These system are very old and their design has changed so many times since 1950 that they have become complicated and impossible to maintain. KNEIP is the system replaces many old systems at Krefregisteret. KNEIP has a modular architecture and uses state of the art technologies to accomplish its goals. KNIPEP has two part the first part consists of preprocessing modules which preprocess XML messages by applying different validation rule. The XML messages are routed in the system according based on their time and origin. The second part takes preprocessed messages for persistence and manual processing.

Technologies used : ActiveMQ, Spring, Maven, Camel, Java, XML, XSD, Hibernate, Query-DSL, MySQL

14. Name: Krefregisterets Nye Elektroniske IKT-Plattform (KNIPE)

Timeline: 01.2013 → 06.2015

Context: KrefRegisteret

Oslo, Norway

Role: Technical Architect, Developer

Short Description: There are many ICT systems at Krefregisteret. These system are very old and their design has changed so many times since 1950 that they have become complicated and impossible to maintain. KNEIP is the system replaces many old systems at Krefregisteret. KNEIP has a modular architecture and uses state of the art technologies to accomplish its goals. KNIPEP has two part the first part consists of preprocessing modules which preprocess XML messages by applying different validation rule. The XML messages are routed in the system according based on their time and origin. The second part takes preprocessed messages for persistence and manual processing.

Technologies used : ActiveMQ, Spring, Maven, Camel, Java, XML, XSD, Hibernate, Query-DSL, MySQL

15. Name: Krefregisterets Meldetjeneste

Timeline: 08.2012 → Continued

Context: Krefregisteret

Oslo, Norway

Role: Technical Architect, Developer

Short Description: Krefregisteret receives a huge number of cancer notifications every year from all the hospitals in Norway. Due to incomplete information in some of the notifications, Krefregisteret sends more than 40000 reminders as normal post to the hospitals all over Norway. The new system replaces the old practices in Krefregisteret, it sends reminders in electronically kind. It is quick, less labor intensive and cheap. The project has evolved since its first version in 2014 and has become the standard way of communication among Labs, Hospitals, Clinics and Cancer Registry of Norway. The project now includes Reminders, Receipts, Patient records, Several different types of cancer statistics and support for temporarily saved forms. The current iteration of this project deals with integrating the Norwegian secure public ID service into the project.

Technologies Used: JAVA, Vaadin, Webservice, Java Webservice, Tomcat, Glassfish, GIT, other common libs...

16. Name: Krefregisteret, PROMs (Patient Reported Outcome Measures)

Timeline: 06.2016 – 02. 2017

Context: Krefregisteret

Oslo, Norway

Role: Technical Architect, Developer

Short Description: This project allows to send different notifications either electronically or though digital post. Upon receiving invitations patients can decide if they want to be part of an ongoing cancer screening process. From the domain modeling and then transferring the model into the DataBase till implementation including deployment, I have played an important role in this project at each stage.

Technologies Used: Java, JAVA RMI, Spring, Maven, Hibernate, Query-DSL, MySQL, GIT

17. Name: Krefregisteret, AUTH

Timeline: 03.2017 – 06.2017

Context: Krefregisteret

Oslo, Norway

Role: Technical Architect, Developer

Short Description: The main purpose of this project is to tighten the internal security and to maintain the user and their permission in a systematic way. The project also allow the administrates to check the different data operations who have been given permissions to use certain data sources (i.e. Databases) and systems.

Technologies Used: Java, JAVA RMI, Spring, Maven, Hibernate, Query-DSL, MySQL, GIT

18. Name: Krefregisteret, Internal Reporting

Timeline: 01.2012 - 08.2012

Context: Krefregisteret

Oslo, Norway

Role: Technical Architect, Developer

Short Description: In this project the main task was to create different reports using Java-Jasper report API. Many different reports were created and publish in the Jasper server. These reports provided important information regarding cancer notifications that are sent to KrefRegisteret from hospitals all over Norway.

Technologies Used: Java, Jasper, SVN, Jasper-Server

19. Name: FABULA, “Applying Multi-Agent Software System to Support Citywide Mobile Learning”

Timeline: 07.2007-12.2012

Context: PhD (NTNU), **Role:** Technical Architect, Developer, Researcher

Trondheim, Norway

Short Description: In this project the main work was related to collect and geographical location and other contextual information of users in the Citywide environment and to deliver a technical platform and essential service. The two important technological artifacts are derived through this work. Firstly, a framework consisting of Service-Model and AGORA based Multi-Agent System is created. Secondly, an ontology is created that attempts to capture all the concepts and relationships relevant for Citywide Mobile Learning.

20. Name: EU Project PABADIS Promise (P2), “Security Architecture”

Timeline: 10.2006 - 05.2007

Context: Austrian Academy of Sciences, **Role:** Technical Architect, Researcher

Wr.Neustadt, Austria

Short Description: This work was conducted in the context of a European Union Project called PABADIS Promise. The main goal for the development of decentralized security architecture in the systems to achieve high level of security about the distributed system components, while maintaining the flexibility in factory automation systems, driven by ever more rapidly changing production conditions, such as order variations, changing products, load variations, or plug&produce capabilities of machines. The results of this work were implemented in the system and were also published in book(s) and at international forums.

21. Name: EU Project PABADIS Promise (P2), “Task Scheduling in PABADIS Promise (P2)”

Timeline: 05.2006 - 12.2006

Context: Master thesis, **Role:** Technical Architect, **Thesis Student**

Wr.Neustadt, Austria

Short Description: This work was conducted in the context of a European Union Project called PABADIS Promise. The main goal for the development of decentralized task scheduling algorithm for the car manufacturing plant. This work was demonstrated and was later published at international forums.

Supervised Master Thesis

Name: Multi-Agent System for Mobile Learning in a City

02.2010 - 07.2010

Context: Master thesis (NTNU), **Role:** Technical Architect, **Thesis (Co-) Supervisor**

Trondheim, Norway

Name: A Semantic Recommendation System For Mobile Devices: Design and Development

07.2010 - 12.2010

Context: Master thesis (NTNU), **Role:** Technical Architect, **Thesis (Co-) Supervisor**

Trondheim, Norway

Language Skills

English: Excellent

Urdu: Native

Norwegian: Good

References

Pakistani Local or International references shall be available upon request.