# Aurangzeb

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Employment History

Project Co-ordinator January 2012 - Present
Xint Solutions, Faisal Town, Lahore

The second Highest rank in the company after directors. I used to do programming when I started but now I've been mostly working in designing softwares.

Major Accomplishments

- Famzoom Server
  This was a chat server made on a specific protocol to fulfill the project's needs. I programmed it in Java. It is so stable that it is running for months without a restart required.
- Pegasus Server
  This was one of the most advanced servers that I programmed. This is a distributed system. The client's requirement was a server without a single point of failure. So here are main features of this server:

  1. It's a tracking software whose responsibility is to track devices' locations on earth and send periodic reports to a list of people who are watching the event.
  2. Adding more servers to the current system is a snap. Just start another pegasus server, there is a web-interface that connects user to the server. The user just have to tell the pegasus server about one another server. Once two servers are connected the new-comer is announced to the friends in the ring and that friend server introduces other servers to the new comer.

  This server was never set to production because the client vanished for some reason, so the current system is not thoroughly tested.
- A Web-Spider
  The aim was to create a search engine, which is still just an aim, but I created a web-spider in which we can pause, and resume the crawling etc, and everything is done without wasting much time as crawlers like winhttrack does, e.g. They download one file twice ( if they have different names ), if paused then resume takes time, if there is an error during the download there is no way to find where the error occured, some files download partially and there is no way to fix that. So this web-spider was very much free of those problems.

- Fast Point-in-Area Search Algorithm
  The aim was to find the area in which a point lies.
  Madison Wisconsin (according to traffic rules) is composed of about 80 zones. I had a shape-file with more than 10 million vertices ( points ) that made up boundaries of each zone. The aim was to find the zone in which the user currently lied. The normal algorithm was taking more than 15 minutes to calculate. I speeded-up that process and successfully brought the time to 15 seconds.

Education History

Intermediate (pre-med/pre-engg)
Govt. Islamia College (Civil Lines) Lahore

NUCES Peshawar
BS Computer Science (2002 – 2006)

NUCES Lahore
BS Computer Science (2006 – 2008)

Programming Skills

- MySQL
  MySQL error-handling, deadlock handling, stored procedures, stored functions, triggers etc.
- Java
  Can do data-structures in java as well as graphical programming. I've programmed many stable programs using Java, I also had been doing Java-Android programming as freelancer.
- PHP / HTML / CSS / jQuery
  - Worked in many php projects including an ad-exchange. Mostly used PHP (without frameworks) for projects.
  - Programmed wordpress themes and plugins when I started work as a freelancer.
  - Worked a little-bit in Drupal
- C/C++
  I had been a good C++ programmer in University, but since it is not used as much in production, my skills have quite faded in this region. Though in 2008 I created a data compression program using huffman-algorithm in about 3 days at about 4-5 hours per day.

Databases

- MySQL (currently using MariaDB)
- MySQL Cluster
  MySQL cluster is a distributed database solution by MySQL makers but it's not very successful because of it's in-memory nature

- PostgreSQL
  A very old relational database system. Very old but good.
- Cassandra
  Cassandra is a NoSQL database (also known as distributed key-value stores) The database design of Cassandra is totally different from that of relational databases. Used Cassandra as a stand-alone database as well as with MySQL (i.e. creating Cassandra tables in MySQL)
- Sqlite (used it in android programs and command-line for storing phone numbers etc)

Programming Tools
- Dia (Diagram Editor) for flowcharting, ERD etc.
- Eclipse for Java and Java-Android (on Windows and Linux, currently using Linux)
- Bluefish/Notepad++ for writing scripts (php/mysql etc)

Operating Systems
- Windows XP, 7, 8, Server 2012
- Linux Redhat 6, 7, 7.1, 7.2, 7.3, 9
- Linux CentOS 4, 5.x, 6.x (currently using 6.4)

Other Tools that I know
- 3d Studio Max with Vray / Mental-Ray
- Photoshop
  been using it since Photoshop 5, can create artificial textures using Photoshop
- Gimp
  Graphical Image Manipulation Program, is a free software that can be used instead of Photoshop. It's not as good (performance-wise) as photoshop, but it's free none-the-less.
- Ffmpeg
- LibreOffice / openOffice / Microsoft Office
- Subversion ( Server / Client )

Conceptual
- Relational Databases
  Good concept of Relational Databases. Their design, handling transactions, errors and deadlocks.
- NoSQL Databases
  Good concept of NoSQL database. NoSQL databases are mostly key-value stores (like Cassandra, Hypertable etc) or document database (like mongo-DB) the database design is totally different from that of relational database. Quite tough but

eventually rewarding.

- Distributed Databases
  Good concept of distributed databases both relational/transactional databases like MySQL cluster, Postgres-XC and Oracle, their limitations and good programming practices, database design issues etc, as well as non-transactional/non-relational databases like Cassandra, Hadoop, Hypertable, their database design, their limitations, MapReduce etc. As well as good concept of facebook at work.
- Flowcharting
  Was known for flow-charting in my student age.
- Algorithms
  Good at creating algorithms, one of my remarkable achievements was Fast Point-in-Area Search Algorithm that I've mentioned above.

Interests/Aims

- I want to create my own search engine that would help people reach those awesome people's websites that are so full of information and their makers paid so many man-hours to them for the benefit of mankind.