

**PROFILE**

Senior Architect & Project Manager with overall nineteen years of work experience. Around six years of experience in Business Process Management (BPM) and Electronic Forms Management (EFM – a derivative of BPM), four years of experience in integrations including web methods integrations for BPM and non-BPM based projects and around one year of experience in ERP applications. Hands on experience of Microsoft technologies; more than four years work experience in Java and Java based technologies; one-year experience in cloud. Excellent communication skills, technically very sound, good analytical & design skills, focused approach, team player, very professional attitude to work and delivered projects with managerial excellence.

- Strategized, contributed and aligned architectures, technologies, roadmaps to corporate strategies.
- Architect & Project Manager for Business Process Management (BPM) projects of PNC bank and Motorola.
- Project manager, Architect for integrations for PNC Bank, Lutron and Axentis.
- Project management, Architected and Developed for Enterprise Portal Platform, Electronic Forms Generation platform (a derivative of BPM), Electronic Forms Generation Re-Platform, Written Communication Channel for PNC Bank.
- Worked for one year on cloud-based project. Did architecture review under the realm of IaaS, PaaS and SaaS.
- Innovated & contributed in BPX methodology i.e. software engineering concepts/ methodologies tailored made for BPM.
- Architected APIs managed DevOps.
- Architected in wide range of technologies in different business domains.
- Innovated, architected and built applications.
- Innovated architectures.
  - Hibernate like executable DB objects for BPM, BPM failed instances monitor, Innovated AJAX based .net API, unit testing framework, exception handling methodology
  - Introduced the idea of Support model or error/recovery architecture to design for recovery from failed business instances within defined SLAs.
- Quick learner, gear up within two weeks or so.
  - This helped to earn major project work and to accomplish project success on time, e.g. learned java and picked up and delivered the most important module of a project i.e., ATMs gateway in java for around 40,000 ATMs on time.
  - This also enabled to develop/design across various technologies, starting from C++, VC++, Java, ASP.net, VB.net etc., and then moved on to Flex, Flash, Ruby on Rails, data warehouse, ERP applications and now working on EFM, BPM, BPI, WebMethods and Message broker integrations, Cloud computing.
  - Therefore, was able to guide clients in selecting appropriate technology for their multi-tier, large-scale projects facing fast-paced commercial environment.
- Dig deep into technologies.
  - Learned and designed in Java based frameworks, J2EE, JEE, Swift, Reflection, boot loaders, JVM, garbage collectors, entity beans, session beans etc.; Microsoft frameworks, COM+, dlls, ASP .net, data islands, Hibernate etc.; Integration frameworks, Transidom screen scrapper, WebMethods B2B integrations, WebMethods service integrator etc.; BPM frameworks, IBM BPM SAAS add-on called blueprint, IBM BPM monitor Holosofx, IBM BPM instances management etc.
  - Thorough and deep learning allowed me to work successfully in the role of Solution Architect, java expert, BPM SME/Practice Lead, Integrations Expert.
- Very solid software engineering background.
  - Had studied and practiced in computer logic and design, theory of automata, data structures, Assembly/ machine language, complexity theory. Had designed reusable middlewares, Software as a Service (SaaS) based programs.
  - This helped to evolve into hardcore software engineer and Architect and enhanced techniques to improve performance and algorithm complexity.
  - Used my knowledge to improve performance of business services significantly to achieve client's satisfaction, improved algorithm complexity from let say  $N^N$  to N or from N! To logN complexity.
- Keen interest in architecture and very strong architectural skills.
  - Introduced and designed in Model View Controller (MVC) architecture, Streamlined architectures, Software as a Service (SaaS), SOA, MOM, CORBA, client-server architectures, reflection, RMI, Data warehouse, AJAX, EFM, BPMN, BAM, BPX, B2B integrations, APIs, DevOps, Cloud IaaS vs PaaS vs SaaS, Microservices. Practiced agile software engineering lifecycle, SCRUM, Waterfall etc.
  - Thus, suggested right architectural frameworks/themes to enterprises that goes well/ evolve their current systems.

**PROFESSIONAL EXPERIENCE**

**US Bank – USA (September 2017 – To Date)**

Lead Architect

**Technology Architect: BPM (business workflows), Business Automation (September 2017 – To Date)**

[Wealth Management & Investment Services Apps: Corporate Trust Account Opening \(CTAO\), Personal Trust Account Opening \(PTAO\), Institutional Trust Account Opening \(ITAO\), PTAM, PTA, Lot Notes Non-Fees Apps, Lotus Notes Fee App \(ENTRATA\), SPQR, Global Funds Service OnBoarding \(GFSO\)](#)

[Strategizing BPM Future State. Company-wide initiatives – TOS2020.](#)

[APIs, DevOps and Agile methodology \(SCRUM\)](#)

[Innovated ideas. Innovator Inside Residence \(IIR\) program](#)

[Fluid and complete automation design for business line processes leveraging technologies that our team and other USB teams offer \(ODM, RPA, RDA,](#)

- Lead Architect for BPM applications: Wealth Management & Investment Services: Corporate Trust Account Opening (CTAO), Personal Trust Account Opening (PTAO), Institutional Trust Account Opening (ITAO), PTAM, PTA, Lot Notes Non-Fees Apps, Lotus Notes Fee App (ENTRATA), SPQR, Global Funds Service OnBoarding (GFSO).
- Managed Architecture Artifacts, SADs, TADs, SAD reviews, ARB reviews etc. for BPM projects.
- Conducted code reviews, developed frameworks, guided and lead teams to continuous improvement.
- Business Automation: As Lead Architect consulted and architected Shared Services for automation, Business Rules Engine (ODM), Robotics Process Automation (RPA), Robotics Desktop Automation (RDA), AI based OCR service to extract and organize data from paper document, business application workflows, integration with other technologies like FileNet, eSign, Pivot, Data Platforms and data analytics tools (ELZ), reporting tools (DASH) to provide complete fluid automation to business line processes.
- Contributed in DevOps: Production Issues, Database performance monitoring tools (IDERA), DB Query optimization, find long running queries, Server Monitoring tools, Materialized Views vs Non-Materialized Views, DB joins vs no DB joins, Relational DB vs zero relation DB (Mongo DB), Clustered indexes versus Non-Clustered Indexes, Fixing the indexes, Oracle vs SQL Server, Physical Server vs Virtual Machine (VMWare), Security (SSL), Deployment & Release Management tools, Code management tools, Performance/Load Testing (Load Runner), Capacity Analysis, Server configuration, Unit Testing (Selenium), Functional Testing, Development and DevOps resources organization under Agile methodology (testers part of Dev team), Testing Automation (Automation Anywhere). Research on tools or Architect tools for Codeless, configuration based development. Architect support/admin tools. Working on 1-Click deployment concept.
- APIs: Use of existing corporate APIs versus duplicating effort. Designing BPM headless workflow APIs for external UI/UX. Integrations following corporate strategies. MQ vs REST vs SOAP vs TIBCO EMS. ETL for B2B data transfer or transactional db to Reporting/Archival db data transfer. External System interfaces & proxies: SEI, ODT, biz db, CBRS, ACATS. File-based endpoints, mainframe endpoints, connect direct. Use of integration tools, like TIBCO, WISE API layer, OSB API layer. Consolidating APIs with multiple endpoints. APIs for airline tickets reservation systems (GDS). APIs for ATMs, ATMs controller. SOA.
- Agile Methodology: Scrum, Scrum Team vs Scrum Extended Team. Team organization, role of Architect, project manager. Identify Product owner from business line contacts. Working module versus documentation. Simplicity, Collaboration. Optimizing architecture artifacts like SAD and SAD reviews through Architecture Review Board and Agile methodology. Sprint cycles/schedules. Development and testing within sprint. Version 1 project work/ sprints management. Empowering team, vertical & horizontal learning, DevOps scale, user story acceptance criteria scripts/automation, efficient collaboration with other technology teams, breaking silos, do more but no duplicate, no stepping on other's foot.
- Strategizing BPM Future State. Applying company-wide initiatives – TOS2020. Working with strategists and architects and contributing in corporate strategies
  - Increased speed, agility and scalability
    - Zero Server LOAD, File upload API algorithm. Browser to API connection.
    - Common UI/UX Theme. Common coach views and common services. Plug and Play model
  - Integration of business, technology, and operations teams, shifting mindset
    - Consolidate and reusable integration with Data platforms/ Data Lake. Using technology where it is best at and at the same time empowering teams beyond their domain.
    - Bringing testers to dev team. DevOps and agility coming together.
  - Continuous innovation and improvement
    - Simplicity: One DB design. Reusable object persistence model as BPM deals in objects.
    - Improvement: Code for evolution. Business rules model that could be shifted to Business rules engine technology
  - Reinvent and automate processes
    - BPM is all about business process automation. Architected several apps as mentioned above. OnBoarding roadmap completion for Investment services.
  - Digitization while improving security
    - Introducing eSign Capabilities into BPM through integration with eSign
    - Leveraging reporting tools like DAS-H.
  - Iterate and Collaborate: Agile development framework
    - BPM is following Agile development framework: "SCRUM" since last couple of years.
    - Emphasized on continuous improvement to reach agility levels. There is never a final destination to rest; there is always what is next. For Agile Framework/Scrum, Maturity level is at a certain point for an organization like what they have automated and how much documentation is reduced but then the next level is reduce documentation even further and automate even more.
  - Cloud adoption.
  - DevOps adoption. One Click Deploy. Continuous Integration/ Continuous Delivery.
- Keen interest in innovation and regular contributor\participant in this regard.
  - Pitched an IDEA for USB Telethon Conference App. Idea selected among top five finalists who then pitched their idea to Chief Information Officer (CIO).
  - Member of Innovator inside Residence team.
  - Submitted Idea for Spring Innovation Cohort 2018 Challenge called OneBridge. The idea was to create a connection between

- business line and TOS, to gather business ideas/issues and get them ideated through TOS. The idea was selected from among several other ideas and successfully cultivated through several Cohort's weekly cycles: <https://ideaplace.usbank.com/D5102>
- Submitted Idea for 2019 Artificial Intelligence Challenge called "Personal Accountant" - . The idea was selected successfully from among several other ideas: <https://ideaplace.usbank.com/D8531>
- Submitted Idea for 2019 Artificial Intelligence Challenge called "AI Based Blockchains": <https://ideaplace.usbank.com/D8531>
- Submitted Idea for 2019 Artificial Intelligence Challenge called "Investment Performance Predictor": <https://ideaplace.usbank.com/D8671>

*Technologies used: IBM BPM 8.5.6, IBM BPM 8.6, IBM BPM BAW, IBM Digital Business Automation, IBM Watson AI, ODM LoadRunner, Version One, Service Now, J2EE, TIBCO, TIBCO EMS, ETL Informatica, Power Designer, WebSphere, IIS, IdeaPlace, Yammer, Blueworks Live, Selenium, Automation Anywhere, SSIS, eSign, FileNet, DataCap, Adobe Experience Manager, InVision, Microservices, Azure, Office 365*

### Techlogix Inc. – USA (October 2006 – September 2017)

Senior Consulting Manager

#### Senior Solution Architect: Campus on Cloud (Jan 2017 – To Date)

[Architected Cloud based configurable product, university management system](#)

Campus on cloud, a configurable cloud-based university management system.

- Conducting architecture review, code reviews.
- Architecting improvements/enhancements to core cloud based architecture.
- MVC architectural model followed, backend is following entity framework. Front end is using angular JS, angular material, middle part i.e. controllers and services are in c# .net, whereas back end is in .net entity framework. Cloud is setup in Microsoft Azure.

*Technologies used: Angular JS, Angular Material, C# .net, Microsoft Azure.*

#### Lead Process Architect: Treasury Management Payments Engine Program (June 2016 – Dec 2016)

[Designed multi-channel, cross-platform notification flow system](#)

This is a strategic, multi-year initiative to modernize PNC Treasury Management payment capabilities. Notifications to customers from this PNC group needed upgrades and multiple channels like fax, mail, email need to be added.

- Designed notices/PDF generation in LC AE Forms. Architected communication channels via fax, mainframe printers.
- For the overall architecture, used mix of both Service Oriented Architecture (SOA) and Message Oriented Middleware (MOM) depending upon response sizes, synchronous processing versus asynchronous processing, real time processing versus batch processing, guaranteed delivery requirements, fail over mechanism, self-recovery, tight coupling versus loose coupling etc.
- Designed client-server file transfer utility across different operating systems using connect direct technology as processing servers, fax servers and print servers were either Windows or Linux or Mainframe.

*Technologies used: Adobe LiveCycle AE Forms Designer, AE Forms Workbench and Connect Direct FileAgent.*

#### Project Manager/ Lead Architect: Treasury Management Electronic Statements (April 2015 – To Mar 2016)

[Re-engineered Mainframe AFP statement generation system to EFM platform powered by OpenText StremServe v5.6.2](#)

The statements generated for customers of treasury management group of PNC were through mainframes and in AFP format. The project was to convert them to PDFs to make them available online and for email communication.

- Introduced OpenText StremServe v5.6.2 for the purpose of conversion of AFPs into PDFs. Performed POCs to certify conversion is possible.
- Developed deep understanding of AFP format and AFP code to design a seamless AFP to PDF conversion process.
- Designed audit & recovery mechanism to plug into Streamline like architecture that can report/retry even if one out of thousand requests in queue fail.

*Technologies used: OpenText StremServe Design Center v5.6.2, OpenText StremServe Control Center v5.6.2, IBM AFP Workbench, IBM AFP Viewer plug-in for Internet Explorer, Connect Direct FileAgent.*

#### Solution Architect: DB Entity framework for BPM process of Enterprise file transfer group (Mar 2014 – Nov 2014)

[Architected Hibernate/Entity Beans based database base objects \(DBO\) for a BPM system](#)

Enterprise file transfer group of PNC have their own business process. They needed help in designing their data retrieval module. Their database was Oracle 11g. They wanted their data retrieval module to be built in PL/SQL

- Designed a custom hibernate or Java Entity beans like architecture in PL/SQL. Created PL/SQL objects for database tables. Each object had the capability to load itself and load its children (tables linked through inner joins). Each object had the query interface compatible to BPM process integration, the result returned as collection of objects.
- Designed the framework efficiently, including efficient memory handling e.g. timely destroying unused objects, took into account database concepts related to running query proficiently like use of indexing, triggers, views etc.

*Technologies used: Wrote code in PL/SQL for Oracle 11g.*

#### Project Manager/ Lead Engineer: PNCI Portal project: (September 2013 – To September 2016)

[Architected Information flow system, content management system in IBM Websphere Portal Portlets v8.0](#)

PNCI portal is a website to offer various services and tools to PNC investment business users (internal PNC employees).

- Designed solution using IBM Websphere Portal Portlets.
- Suggested upgrades, platform improvements, conducted architecture reviews & re-platforming effort to latest software versions.

*Technologies used: IBM Websphere Portal Portlets v8.0, IBM Websphere application server v8.5.5.*

#### **Integrations Architect/ Process Architect: Written Communication Channel – WCC (Feb 2012 – March 2015)**

Designed Business Users driven multi-platform large scale content management and communication management system

It is a multi-million dollars BPM based project, WCC is among the top ten initiatives of PNC bank. Goal is to centralize PNC communication to consumers under one technology group. Mailing of notices was through fully automated state of the art setup. Printing on big roles, then cutter cuts to separate notices after reading OMR codes, enveloping of notices, address validation, placing of envelopes into USPS trays etc.

- Introduced new technology OpenText StremServe v5.6.2 to generate notices as online PDFs and AFPs for mailing. Learned OMR codes and developed process to add OMR codes to AFPs via same technology.
- Designed deluxe robust architecture to achieve highly challenging performance goals to receive client appreciation. Compartmentalized the big process into four separate runnable processes, scaled up multi-tasking, elevated multi-threading & load-balancing, introduced event based mechanism, Aspect oriented programming concepts etc.
- Beside the assigned module/technology, contributed significantly to the overall architecture of the project. Designed Component Role Matrix to define what should be handled by what component/technology. Brought up solid error handling architecture, audit mechanism, recovery and retry mechanism to accompany Good Path Technical Design.
- Inducted business accelerators (BA) idea, where in each technology has its own servers, delivery and support teams.
- Introduced an idea of support model to enable support team recover failed cases within defined SLAs. Designed mechanism to enable components retry/recover on their own and also allow re-run of requests from beginning.
- Designed SAAS based business requests monitor in MVC JEE 7 architecture to show request processing location and if request fails then at what point or component.

*Technologies used: OpenText StremServe Design Center v5.6.2, OpenText StremServe Control Center v5.6.2, IBM AFP Workbench, IBM AFP Viewer plug-in for Internet Explorer. Connect Direct FileAgent.*

#### **Process Engineer: Mortgage Statements (Jan 2011 – Jun 2014)**

Developed Mortgage statements business process, migrated old system from AS400 to Adobe LiveCycle AE Forms

Statements generated for customers of PNC mortgage department were through mainframe and were in AFP format. They need to be generated as PDFs instead, so that they can be shared online as well.

- Reverse engineered and then re-engineered system from AS400 to Adobe LiveCycle AE forms.
- Architected the process to merge data XML with template to generate PDF statement.
- The statements were huge and conversion process was memory consuming. Servers were facing Heap errors.
- Optimized the design and restricted the maximum memory usage at a time by producing portions of the statement at a time and then those parts are assembled into one big statement at the end of the process.
- Overridden Java Garbage collector. Java Virtual Machine (JVM) was adjusted/re-configured.

*Technologies used: Adobe LiveCycle AE Forms Designer, Adobe LiveCycle AE Forms Workbench and Connect Direct.*

#### **Integrations Expert: Web Wire Requests (Apr 2010 – Dec 2010)**

Designed Document/Form triggered BPM workflow; cyberattacks backup/ disaster recovery system for wire requests

Web wire transfer is an online process. However, there is a backup process where in if the online process is down then representatives at the PNC bank branches fax or email the wire transfer form.

- Designed the Workflow like backup process.
- Applied barcodes on the form to encapsulate user entered data and then process reads that data by scanning barcode. Barcodes are more reliable than OCR.
- Applied Throttling to load fixed number of incoming requests in memory.
- Form presented to wire authorization group as a task on their workspace, who approve/reject the transfer.

*Technologies used: Adobe LiveCycle AE Forms Designer and Adobe LiveCycle AE Forms.*

#### **BPM Project Manager - BPM Architect: PCN Homes for Motorola (Aug 2009 – Feb 2010)**

Parts configuration, products configuration changes approval BPM workflow for Motorola

PCN Homes is a tool to manage changes in products and their parts configurations, which are approved/disapproved by product managers.

- Worked as the project Manager and managed from requirements gathering/analysis phase until implementation phase.
- Overall team structure was that there were five to six software engineers at offshore along with 1 QA resource. Offshore team was led by Offshore Project Manager. I was the onshore project manager and was managing the whole offshore team through offshore project manager. I was point of contact for the client.
- Architected process diagrams, process integrations, activity management workflows.
- Used BPX methodology that is Software engineering concepts and methodologies tailored made for BPM. Developed requirements document, development requirements document DRD, doneness matrix, sequence flows.

*Technologies used: BPM Savvion SBM 6.5*

## **BPM Architect - SME BPM Practice: Business Process Management (BPM) applications (Aug 2008 - Mar 2010)**

Setup BPM Lombardi v6.2 platform, upgraded to BPM Lombardi v7.1, architected BPM workflow for Mortgage LOB, information flow for Lending, BAM/BI applications for treasury/retail, executive views for PNC top management

Business Process Management (BPM) is a business accelerator (BA) and/or center of excellence (COE) at PNC which is used to automate business processes for various business departments of PNC.

- Subject matter expert (SME) for BPM BA/ BPM COE, so worked as BPM specialist as part of BPM core team.
- Setup BPM platform at PNC. Also, managed BPM re-platform efforts to upgrade platform to latest software versions.
- Designed process diagrams, what-if scenarios, business services, activity workflows, process instances monitor.
- Simulated processes in IBM Holosfix to capture bottlenecks. Helped in process re-engineering.
- Used Lombardi's SaaS (Software as a Service) add-on, Blueprint, to provide executive views, define SLAs and team performance charts. This bolster collaborative process discovery and lifecycle management.
- Architected following BPX methodology that is software engineering concepts and methodologies tailored made for BPM to obtain doneless matrix, screen definition sheet, role matrix, sequence flows.
- Instrumental in devising good auditing, tracking and support procedures.
- Was also an acknowledged critic, proposer of procedures to enhance safeguarding and proper control of BPM BA and strategic growth of BPM BA within PNC bank.
- Enabled teams to use BPM platform and trained resources to become BPM developers at PNC.

*Technologies used: IBM Teamworks, IBM Holosfx, IBM Teamworks Blueprint.*

## **Senior Integrations Engineer: DIMS project for Lutron (January 2008 – March 2008)**

Designed WebMethods integrations/ data flow services between mainframe ERP JD Edwards and ASP front end

Techlogix client, Lutron is one of the leading vendors to design and develop lighting systems. Lutron develops energy efficient devices which control lightings to produce an attractive effect. DIMS is Lutron's ERP interface for its customers.

- Wrote integrations in WebMethods. Using WebMethods integrator wrote an adaptor for screen scrapper utility called Transidiom to screen scrap data from Lutron ERP system – a mainframe ERP system called “JD EDWARDS” .
- Developed DIMS front end, used ASP and active X controls.

*Technologies used: WebMethods, WebMethods Integrator, Transidiom screen scrapping utility, Mainframe ERP system JD EDWARDS and ASP.*

## **Integrations Expert – Solution Architect .net projects: Patheo applications (January 2005 – December 2007)**

Architected GDS integrations; data warehouse; XML http, AJAX and ASP.net based air fares query & reservation interfaces

Patheo has created products for airline fare industry that are being used by airline booking agents, consolidators and even airlines like United airlines, Lufthansa airlines, American airlines etc. Managed around eleven resources for Patheo projects which require expertise with B2B integrations and/or .net framework. Examples are:

- a. **Consolidator Fares Integration:** Fares are loaded from consolidator data bases to Patheo databases frequently, almost on daily basis. Patheo had developed a system for this, but the process was originally taking almost 16-17 hours and they wanted this time to be reduced to 3-4 hours and we worked on it in this scope.
  - b. **GDS Plug/ Integration:** GDS plug was a framework to offer a common interface which uses compatible integrations behind the scene to interact with different GDS (Global distribution system) systems to retrieve air fares. GDS maintains fares for the airlines.
  - c. **FMQuery:** FMQuery shows air fares and also provides air fares booking module for consolidators. Worked as Analyst and Architect for this project.
  - d. **Probe:** Worked as team lead/offshore project manager for this project. Probe provides air ticket reservations agencies the facility to publish their fares and get bookings online.
- Innovated AJAX based .net API even before Microsoft introduced its own AJAX API (ATLAS).
  - Redesigned the Database as Data warehouse, (Dimensions and facts), designed ETL for B2B integrations.
  - Due to Remodeling of Database as Data warehouse which allow de-normalization versus normalization techniques and reduce inner joins, ETL integration performance enhanced.

*Technologies used: ASP.net, SQL server.*

## **Technology Trainer**

Conducted training sessions for Java, .net, Rational App Scan etc.

Trained resources for different technologies. An example is:

**Trained offshore on Rational App Scan (January 2010 – February 2010):** Techlogix client, Ufone wanted its software to be scanned for software vulnerabilities through Rational App Scan. Rational App Scan will analyze and then report if the software/websites are vulnerable to external intrusion, SQL injections, hacking, code break-in or not.

- Trained QA resources at Techlogix offshore on Rational App Scan.
- Conducted presentations and training classes.
- Trained up to 10 to 12 resources at a time between one and one and a half month.

Principal Software Engineer

1. **Project Manager: Products for Iron Horse Ventures USA (April 2008 – August 2008)**

[Project Manager/ Architected commerce/retail web plug and play modules for Intel products following MVC architecture in Flex 3 and Ruby on Rails](#)

Project manager/Architect for Iron Horse Ventures who develop commerce/retail web modules for Intel products for Intel retailers like Circuit City, Best Buy, Costco etc. Web modules are pluggable to websites, which mainly are: Experience Zone, Configure Solutions and PC Finders. Designed in MVC architecture, view (front end) was in flash coded in Flex Builder 3 IDE and model & controller was built in Ruby on Rails.

2. **Lead Architect: RAMClient (August 2004 – November 2004)**

[Designed auto update utility for McGill products using core java concepts, reflection, boot loaders, class loaders overriding etc.](#)

RAMClient is an automatic update utility for itself and applications made by McGill. To enable update of software products while they are running used Java class loaders, run time compilation and reflection methods.

3. **Project Lead: Driving License Issuance System (January 2004 – August 2004):**

[Developer/Team Lead for Driving License Issuance System that integrates with security and facial recognition systems](#)

Redesigned Driving License Issuance System for state of Illinois belonging to Vendor: Viisage, which mainly builds security systems, that is integrated with Facial recognition system and security systems of Viisage. Developed the system in VC++ using dlls and COM+ architecture.

4. **Senior Engineer: Online System for Mass Mutual (Sep 2003 – January 2004):**

[Redesigned Mass Mutual life insurance system following J2EE 1.3 architecture, Architected page caching and navigation flow model](#)

Developer/ Team lead for life insurance system belonging to Mass Mutual. Reverse engineered the old application and re-designed it in J2EE 1.3 architecture. Used J2SE 1.4 and Power Builder. Architected page caching mechanism and user driver page navigation model.

5. **Enterprise Resource Planning (ERP) Solution Engineer: Textile Mills applications (Jan 2003 – August 2003):**

[Developed in Oracle 11i ERP applications: Oracle Work in Progress, Process Manufacturing, Order management etc. for textile mills](#)

Developed in and customized Oracle 11i ERP applications for textile mills: Crescent Greenwood and Sapphire.

6. **Architect: CCT U.S.A (Jan 2003 – JUNE 2003):**

[Architected in MVCJ2EE 1.3 architecture, bulletin management and airplane engines configuration management systems for GE](#)

This project is a small piece of the overall goal of GE Power systems to hold the Installed Base of all GE installations (Packages and Engines). Used MVC J2EE 1.3 architecture, rational rose, JUNIT.

7. **Integrations Engineer: Axentis Web methods B2B Integrations (Nov 2001 – Jan 2003):**

[WebMethods B2B integrations between Axentis governance & compliance solution and pharmaceutical companies](#)

Axentis a US based company has governance & compliance management system for mainly pharmaceutical companies. Designed B2B integrations in WebMethods between Axentis system and its client companies, like:

- Integrations for King Pharmaceuticals:** Incidents reported by King Pharmaceuticals customers/ employees are exported from database into xml files for Axentis. WebMethods services import them into Axentis system.
- Integrations for Cleveland Clinic:** Developed WebMethods integrations for Cleveland clinic to load its organizational structure to Axentis system.

Improved an integration service performance by converting its algorithm from  $n^n$  complexity to  $n$  complexity.

8. **Lead Engineer: Tekchand U.S.A (April 2001 – Nov 2002):**

[Architected ATMs gateway connected to thousands of ATMs, architected ATMs Advertisement Display & Control system](#)

Tekchand has a product to publish advertisements and to provide extra services like viewing horoscope, weather on ATMs. Designed gateway to control around 40,000 ATMs. Architected ATMs advertisements publishing portal for advertisers. Gateway/portal itself was written in JAVA J2SE 1.3. Architected following MVC J2EE 1.3 architecture.

9. **Software Engineer: Enforsys U.S.A (January 2001 – APRIL 2001):**

[Vehicle Maintenance System, Purchase & Requisitions System for a USA police department](#)

Developed vehicle maintenance, purchase & requisitions systems for a USA police department. Used Data Islands front end objects in ASP, XML HTTP protocols and SQL Server stored procedures.

Academics/Research : Notable Projects

1. Machine Learning and AI: Recognize Person from his voice. Prolog, Neural Network
2. AI Study/ Cognitive Science: How human thinks. Computation complexity and consciousness. What generates consciousness, consciousness to calculations/ deductions.
3. Small OS: CPU multi-tasking – Parallelly Running instructions for multiple programs, FAT like system to store files (B-Trees), Locking Mechanism, Memory reservation, Paging. C++
4. Quantum Mechanics/ Scheme programming language: Using Scheme language to apply mathematical formulae (Differentiation, Integrations). Topology theorems and calculations. Scheme++

	<p>5. Linker/Compiler/ Introduce own coding language: Created linker and complier for my own coding language. C++, Assembly</p> <p>6. Graphics Tool: An Editor to create 2D, 3D objects. Applied mathematics to create graphical objects. C++</p> <p>7. Graphical Airport Traffic Management System: Graphically showing airplanes traffic in the air, airplanes landing and take-offs. Reporting airplane fuel. Accordingly, system giving go ahead to airplanes waiting to land or take-off. C++</p> <p>8. Integrated Development Environment (IDE) for C++: Created an IDE for C++. C++</p> <p>9. Computer Logic and Design: Designed AND/ OR gates circuits to run assembly commands to generate binary signals for machine. Assembly</p> <p>10. Theory of Automata: Basics of computing. How to prove something is computationally is possible or not.</p>
Education	<p>Bachelor in Computer Science, FAST-NU, Lahore. (CGPA of 3.72 on a grading scale of 4.0).</p>
SKILL SET	<p>Databases: Access, Oracle, SQL Server, Mainframe, Postgres and MySQL. Mongo DB (zero relation db)</p> <p>Programming Languages: Java, C/C++, C#, PL/SQL, VB &amp; VB-COM, Prolog, Scheme, VC, Ruby and Flex, javascript, angular JS, angular material.</p> <p>Unit/Functional testing tools: JUNIT, JUNIT EXTENSION, Microsoft application test, Astralload, Winrunner Visual test and JTest.</p> <p>Performance Testing Tools: Load Runner.</p> <p>Project management tools: MS project and MS project central.</p> <p>BPM Tools: IBM BPM 8.5.6, IBM BPM 8.6, IBM BPM BAW, Lombardi Teamworks, IBM Holosofix, Savvion.</p> <p>Automation: RPA, RDA, ODM.</p> <p>EFM (Electronic Forms Management – a BPM derivative) Tools: AE forms, Adobe Live Cycle ES2, Adobe Live Cycle ES, OpenText Stream Serve Control Center and Design Center.</p> <p>Robotics/ Automation tools: Autolt, Automation Anywhere, Robotic Process Automation (RPA)</p> <p>Designing tools, DB Design tools, Process design tools: Rational Rose, Erwin, Visio, Power Designer, Blueworks Live.</p> <p>Others: HTML, XML, JSP, ASP, PHP, COM/DCOM/COM+, XML HTTP protocols, Corba and Data Islands, Websphere portlets.</p> <p>Frameworks: J2EE, asp.net, c# .net, Tapestry, Hibernate, Ruby on Rails</p> <p>Development Tools: Mochasoft, Verastream, Interdev, Netbeans, Dreamweaver, JBuilder, VSS, Wincvs, Xmetal 2.1, TOAD, Flex Builder 3, Sql Developer.</p> <p>Web servers: Oc4j, Web sphere, Apache, Tomcat, JBoss, IIS, asp.net and Web logic, Commerce server.</p> <p>Integration Tools: WebMethods B2B, WebMethods Integrator</p> <p>Screen Scappers: Transidom</p> <p>Other servers: MTS, MSMQ.</p> <p>Applications: Oracle Applications 11i, Oracle Manufacturing, JD Edwards.</p> <p>Operating Systems: Windows, Linux</p> <p>Software Vulnerability Scanners: Rational App Scan.</p> <p>Agile Framework/Scrum Tools, Collaboration tools: Version 1, Yammer, InVision</p>
AWARDS/ PUBLICATIONS/ Co-Curricular activities	<ul style="list-style-type: none"> <li>• Certified Scrum Master.</li> <li>• Among the top five students of the batch in terms of CGPA.</li> <li>• Participated in programming competition PROCOM held in Karachi, Pakistan. Got first position in preliminary round.</li> <li>• Participated in software competition held in Islamabad.</li> <li>• Participated in ACM programming competition held in Lahore.</li> <li>• Participated in ACM all software houses programming competition held in Lahore.</li> <li>• Played soccer as the member of the college soccer team.</li> <li>• Played cricket as the member of the college cricket team.</li> <li>• Played volleyball and basketball as the member of college's section team.</li> <li>• Participated in debating competitions.</li> <li>• Participated in AACP programming competition and secured 2nd position</li> <li>• Participated in All Pakistan annual industrial exhibition and secured 1st position.</li> </ul>