Mayank Tiwari

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PROFILE

- Current Interests: Big Data(Apache Hadoop, Spark & Flink), Machine Learning
- Technology Leader with more than 15 years of IT experience in design and development of high availability, distributed, scalable and high performance multi-tier enterprise applications using enterprise & open-source technologies.
- Financial Technology experience with Morgan Stanley, JP Morgan, Neuberger Berman, Lehman Brothers, Hewlett Packard Financial Services and TD Waterhouse delivering key projects in regulatory reporting, IPO management, Portfolio Analytics, Trade Enrichment, Processing, and Reconciliation, Leasing & Retirement services.
- Experience with OTC Derivatives(Commodities, Credit, Equities, FX, and Interest Rates), Equities, Fixed Income asset classes.
- Strong analysis, design and architecture skills & experience.
- Experienced in data modeling, SQL & stored procedures with multiple databases.
- Strong communication with technical, technology management, business & operations teams.
- Experienced with Agile-Scrum/Kan-Ban, as well as SDLC development methodologies.
- Strong track record as a hands-on manager performing in Team Lead, Tech Lead, Architect, & Developer roles.

EDUCATION

Master of Science in Computer Science, Aug 2001 from University of South Carolina, Columbia, SC

Bachelor of Science in Computer Science, May 1997 from Devi Ahilya University, Indore, M.P., India

Deep Learning - Andrew Ng - Coursera, IN PROGRESS

TECHNICAL SKILLS

Programming	Java, Python, C/C++, PL/SQL, JavaScript, PERL, Delphi, VB, bash, sed, JSP, PHP, WSH, XHTML, lex, yacc
Frameworks & Libraries	Spring (Boot, Core, Batch, MVC), JEE(JMS, JDBC, JPA, EJB, Struts, Servlets, JSP, JNI, JMX), Hibernate, MyBATIS, Drools, XML (XML Schema, XSL/XSLT, XPATH, JDOM, FOP), JSON, ESPER, Junit, Mockito, Concordian
Enterprise Software	Databases (Oracle, DB2, Informix, Sybase, MySQL, MS SQLServer), JEE App Servers (BEA WebLogic Server, Oracle, Tomcat, JBoss), Messaging (Websphere-MQ, Tibco Rendevouz, EMS), Enterprise Integration Frameworks(Kafka, Camel, Mule, Spring Integration), Workflow (jBPM, Activiti, TIBCO Staffware), Apache HTTPd, Stellent CMS
Tools	MS-Visio, TOAD, Gradle, Maven, Ant, make, Jenkins, Git, Perforce, Clearcase, SVN, JIRA, Bugzilla, Sonar, JaCoCo

PROFESSIONAL EXPERIENCE

Morgan Stanley - Glasgow, UK   **Oct 2013 to Present**

Vice President, Operations & Compliance Technology: **Dev Manager, Architect**. App Dev Lead for GTR Herald Glasgow Team with a mix of Leadership, Management, Architecture & development duties.

Project *Herald*: Herald is the firm strategic solution to all regulatory reporting of OTC-Derivatives to multiple regulators (CFTC, JFSA, ESMA, CSA, MAS, HKMA, and ASIC) as part of firm's response to Dodd-Frank, EMIR and similar regulatory acts across regions

Management & Leadership
- Managed development of regulatory reporting for transaction, valuation, & collateral reporting; collaborating with Product Owner, key stakeholders, and global team members
- Personnel management for the Herald team, including performance management, goal setting, coaching and mentoring
- Organized recruiting, hiring drives, interviewing, on-boarding processes for OCT
- Managed OCT Tech Labs and organized design, development & delivery of voluntary tech projects
- Contributed as member of the OCT architecture forum
- Involved in local governance activities including BCP planning, oversight, risk-management, and local reporting
- Conducted & organized staff technical training sessions & Agile training sessions
- Managed production incidents: analysis, communication, troubleshooting, resolution and follow-ups
- Helped with expansion of the GTR Glasgow team
- SME for the Glasgow team for GTRS & Herald system, regulatory reporting domain

Design & Development
- Lead teams on development of EMIR2, ASIC, MAS, and HKMA transaction reporting; Enhancements for CFTC, EMIR, & JFSA
- Designed & developed scalable batch framework, strategic position remediation, valuation migration, and OCT business event monitoring
- Designed & implemented Control Framework for Herald - issue detection for volume & SLA, Exception Management & reconciliation
- Led architectural brainstorming sessions; Developed conceptual & technical architecture diagrams for Herald
- Refactored & implemented scalable framework components for large EOD Batches with hard SLAs
- Analysed & refactored Herald to address architectural issues, design flaws and performance issues
- Implemented automated unit tests, integration tests and acceptance tests
- Set guidelines, processes for team-practices - coding guidelines, code review process and build management
- Participated in release planning, sprint planning, backlog grooming, daily scrum and retrospective meetings

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JP Morgan Chase & Co. - Mumbai, India   **Mar 2010 to Oct 2013**

Associate, Investment Management Technology: **Dev Manager, Architect, Scrum Master**. App Dev Manager at Retirement Plan Services (RPS) for RPS LNR Program apps, Team Lead for RPS Distributed Applications Mumbai Team with a mix of Leadership, Management and Hands-on design & development duties.

Project *RPS Lotus Notes Remediation Program*: Re-platformed Lotus Notes applications to manage RPS business processes including plans, plan notes, statement management, and change requests.

Project *rpsPRISM*: Application to capture complex retirement plan & investment setup and the associated rules that govern the Defined Contribution, Defined Benefit and Non-Qual retirement plans offered by JP Morgan RPS as a record keeper. The plans, investment setup drive all down-stream processing & the application manages the synchronization of this data across multiple data-stores as well as Mainframe OMNI ODS.

Management & Leadership
- Managed the India distributed development team, including Performance Management, Goal Setting, Coaching and Mentoring of team-members
- Participated in project, budget & resource planning, quarterly & annual forecasting, and RPS IT India organizational strategy planning
- Managed LNR application development with full ownership in India collaborating with key stakeholders, global team members
- Managed the off-site rpsPRISM application development team collaborating with key stakeholders, global team members
- Recruiting, interviewing, on-boarding, off-boarding, attrition management
- Involved in local governance activities including BCP planning, oversight, risk-management, and local reporting

Design & Development
- Designed & developed the LNR applications
- Led architectural brainstorming sessions; Developed conceptual & technical architecture diagrams for LNR applications
- Implemented framework components of the LNR application using Spring, Spring Batch, and jBPM
- Refactored & implemented the integration layer design & the rpsPRISM transaction manager
- Designed the authentication & authorization framework for rpsPRISM
- Analysed & refactored rpsPRISM to address architectural issues, design flaws and performance issues
- Implemented components of the rpsPRISM application using Spring, Spring Batch, Hibernate, JSP, JSTL, and JQuery
- Performed application security risk review for business critical RPS applications as an Application Security Champion
- Analysed & evaluated risk for RPS applications as part of Corporate Application Security review program
- Assisted in development of RPS distributed applications (eTools, PSP Admin, ROL)
- Conducted design, code & code quality reviews of other developers
- Participated in release planning, sprint planning, backlog grooming, daily scrum and retrospective meetings
- Developed sprint dashboard & Sprint work calendar to assist & simplify development sprint tracking
- Implemented POCs on: Mule, Camel, Spring Batch, Spring Security, jBPM, Activiti
- Undertook training in SCRUM/Agile processes, Management skills, Enterprise Application Security
- Implemented POC to analyze code quality using SONAR on individual sprint basis

Team Development
- Instituted functional & technical deep dive sessions to bolster domain & technical knowledge of the team
- Conducted architecture, design & brain-storming sessions with Mumbai teams
- Conducted & organized staff technical training sessions
- Coached & championed adoption of SCRUM in RPS IT India in association with IM Tech India Enterprise ScrumMaster

Lehman Brothers Inc./Neuberger Berman LLC, New York, NY - New York, NY   **May 2006 to Nov 2009**

Senior Developer, Investment Management Division: **Architect, Technical Lead, Developer**. Responsible for architectural design & development of multiple projects. Review of business & functional specifications. Development of technical designs. Migration of legacy applications to JEE infrastructure.

Project *SNAP*: SNAP is a strategic firm application for managing buy-side security offering (new issue & follow-on) allocations & the associated trading aspect. SNAP has complicated allocation logic to handle rules, regulations, policies and approval processes governing such allocation process, mandated by the Audit & Compliance department.

Project *FIFE*: An NB back-office application for entering & transmission of trades in BroadRidge FIFE system involving FED securities for Private Asset Management business.

Project *Statements Viewer*: Application for generating client statements; used by Back-office department internally for verification.

Project *Daily Commissions Report*: Application for reporting of commissions for Registered Representatives (RR).

- Led effort on design & development of the SNAP system
- Developed architectural model for SNAP, delivering UML Class Diagrams, UML Sequence Diagrams, Database ER-diagrams and Flowcharts
- Designed & implemented a flexible, pluggable, fair & random, fully audited & replicable share apportioning engine for retail line of business specific shares allocation process
- Implemented functional entitlements, masquerading, customizable search, SQL-repositories, PDF Generation, method auditing as reusable components. The PTS & FDS projects leveraged these components and as a result reduced development time significantly
- Implemented various proof ofcConcepts & prototypes for showcasing Java & Lehman enterprise frameworks, including Spring Framework, TIBCO-Staffware, Lehman UCF, Struts, XSLT based PDF generation, MS-Excel document generation and AJAX
- Designed & developed the FIFE application for entering & transmission of FED securities to the BroadRidge FIFE system
- Designed & Developed the OpenStaars reporting application for transaction break analysis between PMR & OpenStaars systems
- Migrated Statements Viewer & Daily Commissions Report (legacy cgi-bin applications) to JEE platform under tight deadlines

- Contributed to ongoing maintenance of the PMR, PMR-Report Engine, AAPS, Account Inquiry and PMR-JobRun systems
- Assisted in architectural design of PTS & PMR-JobRun applications
- Assisted in migration of PMR transaction processing from ADP to Ridge clearing services
- Developed utilities for FDS system for integration with Ridge clearing services
- Migrated several BEA-Weblogic JEE applications to JBoss 4.x & 5.x platforms
- Designed JBoss 4.x & 5.x cluster management for Neuberger Linux-JEE infrastructure
- Assisted in providing on-call services for administration of the IMD Linux-JEE infrastructure
- Implemented fully automated build & deployment procedures
- Conducted several workshops, training sessions on JEE, Spring Framework design & development, and Design Patterns
- Conducted interviews of prospective candidates for full-time & consulting assignments in PMR

DB Concepts - Woburn, MA   **May 2006 to July 2007**

Full Time Employee/Senior Programmer Analyst: **Architect, Senior Developer**. Provide consulting services at Lehman Brothers Inc.

Hewlett Packard Financial Services - Murray Hill, NJ   **March 2004 to May 2006**

Consultant/Senior Developer: **Architect, Technical Lead, Developer**. Responsible for design & development in a fast-paced environment with tight deadlines. Participated as a member of multinational development team communicating across multiple time zones.

Project *Phoenix*: Software for hardware lease management; one of the three core applications at HPFS. The system serves as the foundation for lease origination and interfaces with numerous booking, accounting & billing systems.

Project *Business Entity Core (BEC)*: A messaging based business entity management application. The application manages & co-ordinates storage & retrieval of business entity data & related accounting transactions amongst various internal systems.

- Developed new business modules, implemented change requests & enhanced existing functionality
- Designed & implemented messaging based application for BEC
- Implemented JNI based client interfaces for MS-MQ for Java based systems
- Developed MS-MQ interface components used by various applications to interface with BEC
- Identified architectural problems with the application; Presented architectural re-design & upgrade plan to upper management & business users with collaboration from the Project Manager & the Development DBA
- Lead development team on architectural refactoring of application to support business requirements & growing application load
- Designed & implemented a replacement security system to satisfy Sarbanes Oxley audit requirements
- Developed J2EE components & PL/SQL stored procedures
- Implemented fully automated build & deployment procedures
- Conducted several workshops, training sessions on J2EE design & development

Matson Navigation Company - Murray Hill, NJ   **December 2003 to March 2004**

Consultant/Senior Programmer: **Architect, Technical Lead, Developer**. Responsible for design & development of VINSight web-services.

Project *VINSight*: Software used by Matson for tracking cars on Shipping terminals & containers.

- Designed & implemented web services on WebLogic Server using EJBs
- Implemented web service clients using VB.Net for handheld devices used at shipping terminals
- Instituted unit testing using JUnit; Instituted software project management using maven

TD Waterhouse Investor Services - Jersey City, NJ   **August 2003 to December 2003**

Consultant/Developer: **Architect, Technical Lead, Developer**. Responsible for design & development of system modules as well as code reviews & bug fixes in a fast paced environment with tight deadlines

Project *ETRAN*: Software to manage messaging (real-time intraday trading updates & other synchronization) between trading & ADP using WebSphere MQ (MQ Series) platform.

Project *Trade Central*: TD Waterhouse Online trading web site & tools

- Designed & implemented JMS producers & consumers of XML based trading messages
- Implemented MQ channel management using MQAI API as C++ classes & Java classes
- Developed stored procedures for SYBASE & MS-SQL Server and Oracle
- Developed JMX based components & numerous supporting shell scripts for application control
- Designed & developed a flexible failure handling & recovery system to ensure robust operation
- Implemented JDBC & PERL DBI applications for batch updates
- Developed regular expression based "screen-scraping" library to provide live stock market information on Trade Central
- Conducted training sessions & workshops on J2EE design patterns & use of CVS for SCM
- Instituted unit testing using JUnit; Instituted software project management using maven

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Merck & Co - Rahway, NJ   **December 2002 to July 2003**

Consultant/Developer: **Architect, Developer**. Designed & implemented the PUBS & MRLRC Web as Apache Struts based web applications.

Project *PUBS*: Web application to manage the clearance processes for manuscripts to be published in public media.

Project *MRLRC Web*: The MRL Record Center intranet web application managed the massive inventory of archived research records.

- Designed & developed a dynamic Workflow based clearance approval system
- Implemented XML based storage of Manuscripts using JDOM & Castor
- Implemented PDF generation of various artifacts generated by the application using Xalan XSLT processor & Apache FOP
- Designed XML schemas for manuscript definition & validation
- Developed PERL scripts to integrate with legacy Informix 4GL application running on production systems
- Designed & implemented a generic object persistence framework for inventory submission Workflows in MRLRC Web
- Integrated MRLRC Web with legacy Windows application (iRIMS), the core of Records Inventory application
- Developed a network server to provide an interface to legacy Centura applications using RMI, JNI and COM
- Designed & developed a Transaction layer to coordinate long running transactions in Data Access Objects
- Developed JavaScript user interface components like dynamically editable Table & List components
- Trained team members in J2EE technologies, Design Patterns, Struts and Rational Clearcase
- Instituted Unit testing using JUnit & implemented software project management using ant & maven

National Century Financial Enterprises - Dublin, OH   **June 2002 to November 2002**

Consultant/Developer: **Architect, Developer**. Responsible for design & implementation of Workflow & access control subsystem

Project *Request Management System*: An enterprise application to manage NCFE's business processes integrated with their enterprise web portal.

- Designed & Developed an XML driven process Workflow engine
- Designed & Developed the a dynamic, real-time Role basec access control framework backed by Stellent CMS
- Implemented security policy propagation using JMS to support dynamic updates & ensure consistency across the Cluster
- Developed WebLogic portal components for implementing functionality surrounding business workflows
- Implemented Stellant CMS based data store for request documents & definitions
- Implemented role mapping subsystem to support seamless integration with data sources using conflicting role models
- Designed & documented the application using Rational Rose & produced UML diagrams

ISHI Systems Inc. - Jersey City, NJ   **May 2002 to May 2006**

Full Time Employee/Senior Developer: **Architect, Team Lead, Development, Infrastructure, Network Manager**. Developed firm's internal systems & on-site project participation in roles including lead developer & technical architect at high profile client sites as consultant.

- Championed adoption of open-source software environment; including setting up the first Intranet portal for the firm
- Participated in software design sessions, code reviews & implementation for outsourced & in-house projects

Spirit Telecom/iSCAN Networks - Columbia, SC   **October 2001 to April 2002**

Consultant/Developer: **Architect, Developer, Network Monitor**. Conceived, analyzed requirements, designed & implemented the application.

Project *iSCAN Alarm Server*: A software to facilitate & improve error event state management in HP-Openview & provide execution of scripted actions in response of certain business critical error conditions.

- Developed an Multi-Threaded TCP/IP Server for SNMP alert state management using Python on a Linux system
- Developed a configurable alarm stage display GUI system synchronized with the server using GLADE & pyGTK libraries
- Developed plug-ins for HP-Openview to send real-time alarm messages to the server over TCP in PERL
- Assisted in system administration of several servers running HP-UX & Sun Solaris
- Monitored L3 networks on Newbridge 46020, assisted clients & network analysts with troubleshooting

START Corporation - Rock Hill, SC   **October 2001 to Apr 2002**

Part Time Employee: **Architect, Developer, Network Monitor**. Provide consulting services at Spirit Telecom Inc./iSCAN Networks

University of South Carolina, Computer Science Dept. - Columbia, SC   **August 1998 to August 2001**

Full Time Graduate Student: **Research Assistant, Instructor, Teaching Assistant**.

- Conducted Research on Role-based Access Control & Separation of Duty Constraints
- Implemented a firewall (Kernel Module) for the Linux Operating System based on Netfilter
- Implemented a complex authorization/access control mechanism for database systems
- Conducted labs for advanced C++ course; Designed, administered & graded mid-term & final examinations
- Instructor for CSCI 101 & 102, conducted lectures, labs, graded assignments for 70+ students

Department of Electronics, Government of India - New Delhi, India   **May 1997 to July 1997**

Internship

- Researched Internet mail system, specifically SMTP & POP3 protocols
- Developed Mail Transfer Agent for integrating X-Mail to SMTP mail systems using Sun JDK