Jaskaran Singh

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Result driven technology and management professional with over 16 years of experience in managing, designing and implementing end-to-end enterprise wide systems. Proven expertise in mobile application and web development, business intelligence, system architecture, big data and real-time analytics space. Visionary change agent with deep understanding of business needs, technology, industry dynamics, and customer requirements.

Core Competencies

- Big Data implementations
- Mobile Applications
- System architecture
- Product Management
- Data Science
- Application Development
- Vendor Management

Technical Skills

Programming Languages	C#, C, C++, Objective-C, PHP, Ruby On Rails, Python, R, Scala, Java
Mobile	Android, iOS, Java, Objective-C, Swift
Scripting and Server-Side Programming	MVC, ASP.NET, JavaScript, JQuery, CSS, Bootstrap, React.JS, NodeJS, AngularJS
Big Data	Hadoop, Spark, Kafka, Hive, HBase, Drill, Elastic Search, Pig, MapReduce, RedShift, Machine Learning
Business Intelligence	SSRS, PowerBI, Tableau, Datameer, Birst, Alteryx
Operating Systems	Linux, Windows, OSX
Databases and related Technologies	MS SQL Server 2008, MongoDB, Postgres, MySql
Cloud Platforms	Microsoft Azure, AWS

Professional Experience

JCPenney, Plano, TX   (September 2017 to Present)
Lead Data Scientist / Big Data Architect

- Responsible for architecting, design, prototyping, and implementing solutions to tackle the Big Data and Data Science needs for a JCPenney's Marketing division
- Work in cross-disciplinary teams within JCPenney to understand client needs and ingest rich data sources such as social media, news, sales and customer level data.
- Responsible for driving the company's Machine Learning initiative to implement models for customer segmentation and depreciation.
- Architect, implement and test data processing pipelines, and data mining / data science algorithms on a AWS hosted **Hortonworks** data platform.
- Translate advanced business analytics problems into technical approaches that yield actionable recommendations, across multiple divisions.; communicate results and educate others through design and build of insightful visualizations, reports, and presentations.

- Responsible for developing Big Data Roadmap, tool evaluations (traditional tools and new-age tools) and tool selections for various BI & Data capabilities., identifying and transitioning business groups/users from traditional reporting to new-age data discover/data visualization and data lake products where appropriate.
- Responsible for establishing Data Governance as needed to enable self-service usage of data assets on both traditional and new-age (Data Lake) data platforms.

Crossmark, Plano, TX (May 2012 to September 2017)
Big Data Architect / Data Scientist

- Led team of 12 developers to implement the analytical solution (**Microsoft Azure HDInsights Hadoop (Hortonworks), HBase, Hive, Pig, MapReduce, Datameer, Powershell**) that enables the business to understand household shopping behavior and how it affects the store and brands' sales, and deliver meaningful insights for answering the 4P of the retail ecosystem (Price, Promotion, Place, Product).
- Collaborated with business to understand the store level scan data and the sales pattern of the products sold in a retailer stores across multiple markets.
- Partnered with other internal organizations to procure data and understand what insights can provide them business value to drive their sales.
- Collaborate with the Insights team to make the data available to **Alteryx** and overlay that data with U.S. census data and syndicated data from Dun & Bradstreet, TomTom, USPS and many others.
- Work closely with the business stakeholders and the reporting team to develop dashboards using **Birst**.
- Responsible for architecting the infrastructure setup and administration of the Hadoop cluster using Powershell and **Azure ARM Templates**. Automate the environment setup using Powershell and also automatic scaling of the cluster for optimal usage.
- Work closely with Datameer team and HDinsight team at Microsoft to integrate various solution components. Successfully deployed the first Datameer installation on Microsoft Azure using HDinsights. Responsible for configuring networking, security, compute and storage resource in the cluster
- Implemented the Market Basket Analysis using Nielsen Homescan data
- Responsible for modelling the Scan data and data cleansing.
- Managed team of developers to implement the jobs to cleanse and process the data.
- Architected a real time stream processing ingestion engine using **Apache Kafka**, **Apache Spark** and **HBase**. This platform will act as a central hub to gather events from the execution teams in the field and in stores, and then deliver real time insights.
- Responsible for fine tuning the cluster, performance benchmarks

Application Architect
- Responsible for architecting the company's initiative to replace paper based retail on-shelf availability process with a mobile application and SOA Services so that the field support can quickly execute and then report their work. This solution involved the planning tier (Web application), execution tier (mobile application), and the reporting tier (Web API).

- Led the retail planning team in design and implementation of the planning work bench. Worked closely with the business team to understand the current process and design the workflow so that the agents can quickly enter the work.
- Designed the Application services using **ASP.Net Web MVC** and **RESTful** principles for adoption by the mobile applications (**Android, iOS**). The data to be ingested was sent down using **JSON**
- Designed the **Web API Services** for ingesting the reported work from the mobile application as well as for servicing the planned work to the mobile devices
- Designed the mobile applications. Worked closely with the business to understand the nature of the workforce, the driving conditions, network availability inside the stores.
- Work with third party vendors (**NewRelic**, **AppDynamics**, **Crashlytics**) to integrate various plugins/application to ensure the stability, robustness and fault-tolerance of the system.
- Integrate Omniture Marketing Cloud and work with business to understand the application usage and pattern.
- Design and Architect a continuous build system using **Jenkins** that would deploy the code running in **AWS**
- Automate the provisioning of system environments in different cloud environments including AWS and Azure. This includes setting up virtual networks, network security groups, deploying the virtual machines, adding the virtual machines into a load balancer.
- Responsible for the managing the scale, security, control, integration and optimized access of the application API workloads using CDN (**EdgeCast**) and **IBM Datapower** workloads.
- Architected the reporting solution using **MongoDB**
- Responsible for architecting the end to end flow from planning stage to the execution stage and then to the reporting.
- Worked closely with the business analyst and product owner to help groom the stories to be injected into the sprint. Provided recommendation on stories to reduce the technical debt and improve system performance and experience
- Responsible for conducting code reviews and providing feedback to the developers

Active Network, Irving, TX (June 2007 to May 2012)
Solutions Architect

Project: Security Caching Framework/Payment Processing/ OAuth
- Architected a caching system to store the security credentials and permissions and load balance it among multiple servers. Also designed an application to monitor the data on the server, to take the caching process online/offline (**WCF**, **SQL Server 2008, C#, Windows services)**
- Responsible for designing the framework for payment processing and integration with Cybersource for credit card payments
- Designed the client side of the Remote Deposit Capture integration with ProfitStars for processing of eChecks
- Responsible for introducing unit testing strategy using MbUnit and the repository pattern to mock the data layer. Also assisted and directed the QA team to use Selenium grid to run the unit tests.
- Responsible for writing the functional specification, use cases and the design document.

- Responsible for developing base windows services that can be used by developers as templates. Used performance counters to monitor service throughput and performance. Created MSMQ based services and timer-based services.
- Responsible for designing the framework around the OAuth APIs to fetch the data in a common fashion. (ASP.Net MVC, C#, SQL Server 2008, XML, XSLT, JSON, OAuth)
- Architected the app store where third party customers can submit their apps to be consumed by the customers.
- Architected the Injection pattern for testing the API methods. The pattern is useful to spinning up dummy data on the fly, and test out the CRUD operations.
- Designed the API's resources using Restful architecture, and ability to give back the data in XML format using XSLT transforms, and also JSON.
- Responsible for introducing the NoSQL metaphor, and also redesigning the groups functionality to move the cached data to **MongoDB** instead of fetching it from database every time.
- Responsible for Active Record ORM. Designed the data validation around the Active Record entities, and also the concept of dirty flags to know when data points are set which would be used to then write appropriate SQL
- Designed code generation application to generate the Active Record model
- Implemented build system using **Jenkins**. Designed the system to use powershell to pull the source from github, and deploy across a server farm.
- Responsible for mentoring junior developers and assisting them on technical and functional issues.
- Responsible for setting the code standards, and ensuring that the developers adhere to those.

Jack Henry & Associates, Allen, TX (Aug 2002 to June 2007)
Technical Lead/ Senior Developer

Project: Remote Deposit Capture/ Check21
- Led the initiative to develop the Remote Deposit Capture system that would provide merchants with the capability to scan and submit checks using high speed scanners (**.Net Remoting**, **Web Services, SQL Server 2000, T-SQL, ADO.Net, C#, C++, Interop, NUnit, Cryptography API)**
- Work closely with the third party vendor Orbograph to integrate CAR/LAR functionality
- Responsible for developing a C# wrapper around Orbograph API.
- Designed and developed a Web Service which will be used to upload scanned items from high speed scanners.
- Responsible for interface design, writing data access layer, backend database development, and a windows service that would be used to talk to the backend system.
- Responsible for writing unit test cases for different modules in the project using NUnit.
- Responsible for developing the functional specifications of the system. Created use cases, sequence diagrams using UML. Also responsible for creating a Software Requirement Specification (SRS) document for the system.
- Developed the scanner functionality to talk to the system. Unisys MyVisionX and RDM scanners are supported.
- Designed and developed the Check21 processing system using **C#**. Developed the Check21 file generation library using a grammar driven approach.
- Responsible for writing the Check21 file format to be sent to Wells Fargo bank.

Education and Certification

- **Master of Science**, Computer Science, Baylor University
- **Bachelor of Technology**, Computer Science and Engineering
- Microsoft Certified Solution Developer (**MCSD**)