Jeyaram Ashokraj

Email : a.jeyaram@gmail.com

Summary

I am a software engineer at IBM where I build cloud native applications and help product teams to adopt best practices for developing production grade applications.

Experience

IBM Rochester, MN, USA

Software Engineer *Oct 2015 - Present*

CloudPak Engineering:

* Responsible for making IBM CloudPaks work consistently in RedHat OpenShift (RHOCP) in hybrid cloud.
* Developed Kubernetes controller for Redis database, used as shared dependency across IBM CloudPaks.
* Developed general-purpose service broker operator for kubernetes (using OSB API).
* Developed solution and tooling for disconnected installs of IBM CloudPak on Openshift clusters.
* Developed internal developer tools (CLI) for packaging and delivering IBM CloudPaks.
* Implemented code & image signing for our pipeline, to ensure integrity and avoid supply chain attacks.
* Helped develop certification framework containing security best practices and patterns that IBM products must follow when developing production grade applications on Kubernetes.
* Helped onboard ISV and opensource helm charts into IBM catalog by addressing security gaps and hardening things to help them meet IBM standards for Kubernetes software.
* Responsible for maintaining inner source components.
* Participated and contributed in external open source communities like operator-sdk, operator-lifecycle-manager.

Watson Natural Language Understanding:

* An API as a service platform for natural language understanding tasks.
* Responsible for engineering, implementation, monitoring, and maintenance of the service.
* Integrated sentiment service with existing stack (implemented in Typescript).
* Developed helm charts to deploy the product in IBM Private cloud.
* Created scripts to automate migration of standalone databases to IBM Cloud Database instances.

Analytics Engine:

* A IaaS compute platform running Apache Hadoop and Spark.
* Developed CLI tool to interact with the cluster, launch spark jobs and retrieve logs.
* Implemented the webHDFS REST api as file system commands in the CLI.

BigInsights on Cloud:

* A big data platform running Apache Hadoop on VM's and baremetal machines.
* Developed Chef recipes to scale clusters by adding nodes, backup and restore.
* Implemented parallel delivery of security fixes to clusters.
* Responsible for enabling GDPR complaince, by adding Vault support and encrypting disks.
* Encryption was challenging task due to large size of disks (4 TB X 8 disk X 5-8 nodes). It's typically done by backing up data to temp disk storage and then encrypting it, but instead I proposed to use Hadoops self-healing and rack-awareness to handle data loss during encryption which cut down time from weeks to days.

Spark as a Service:

* A multi-tenant platform for running notebooks and batch jobs with Apache Spark, running on top IBM Spectrum and Apache Mesos.
* Responsible for engineering, implementation, monitoring, and maintenance of the service.
* Created a containerized integration test framework using Cucumber for the CI/CD pipeline.
* Improved the platform security by fixing vulnerabilities identified from external penetration testing.

Analytics NextGen Workbench:

* A platform for data scientists to design and develop predictive models and execute with SPSS backend.
* Responsible for developing a scheduler microservice using Akka/Scala for the platform.

University of South Florida Tampa, FL, US
Research and Teaching Assistant *Aug 2014 - May 2015*

Research Assistant:

* Analyzed customer software subscriptions data provided by Wharton customer analytics initiative (wcai) research group.
* Involved in cleaning and preparation of data set, feature extraction, data visualization and identifying research questions.

Teaching Assistant:

* Distributed Information Systems (ISM 6225) and Information Security and Risk Management (ISM 6328)

Software Developer:

* Developed responsive web pages for college of global sustainability using Bootstrap, HTML5, CSS3 and JavaScript.

Cognizant Chennai, TN, IN
Software Engineer *Aug 2008 - Nov 2013*

Performance Engineering:

* Responsible for profiling JVM and heap dump analysis, to identify potential memory leaks and slow running code.
* Tuned JVMs and recommended GC policies appropriate for the application, which improved the scalability and reduced memory footprint.
* Developed RESTful web services, providing in-house performance engineering tools as SAAS services for internal development teams.

Education

University of South Florida Tampa, FL, US
Master of Science in Management Information Systems; GPA: 3.94/4.0 *Jan. 2014 – May. 2015*

Madras Institute of Technology Chennai, TN, IN
Bachelor of Engineering in Computer Science; GPA: 6.8/10.0 *Aug. 2004 – July. 2008*

Programming Skills

Languages: Go, Python, TypeScript, Scala, Java, C++

Frameworks: Node, Akka

Cloud Platforms: Kubernetes, RedHat OpenShift, IBM Cloud

Infrastructure: Chef, Ansible

Databases: RDBMS (PostgreSQL, MySQL), NoSQL (Redis, MongoDB)

ML: R, Tensorflow

Others: Containers, Git

Academic Projects

ICC Cricket Worldcup 2015 predictions: Collected and prepared match results data from espncricinfo.com. Built logistic regression models to estimate the probability of winning and evaluated against previous world cup.

Recommender Systems: Mentored by Dr.Balaji Padmanabhan, PhD. Investigated the problem of existing recommender algorithms used in businesses with hierarchical domains. Studied recommendation algorithms such as Probabilistic Inferences, SVD, CF and content filtering.

Predictive Models for P2P lending: Cleaned and analyzed a large XML (3.5 GB) data provided by peer-to-peer lending platform (www.prosper.com). Built predictive models for loans approval/rejections, loans default and risk calculation, and borrowers rating classification.

Digital Image Processing toolkit: Implemented image processing algorithms like Scaling, Edge detection, Fourier transforms and Hough Transforms in C++ (without built-in libraries like OpenCV)

Character Recognition toolkit: Implemented a classifier (minimum distance, Bayes moments and Nearest neighbor) for MNIST digit dataset using the central moments and covariance for each class as features.