Xing Du

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EXPERIENCES

Salesforce.com Inc, San Francisco, CA.   **AMTS Software Engineer**   **Jan. 2020 - Now**

- Infrastructure as Code: Manage and provision data center using HashiCorp tech stack (Terraform, Nomad, Consul, Vault, Packer) and AWS; Troubleshoot with ACL bootstrap and Nomad outage recovery.
- Cost Management: Implement an IAM role with Terraform that enables the non-technical personnel to access AWS billing information, configure SAML Authentication (SSO) in Duo Access Gateway with Microsoft Active Directory Federation Service (AD FS). Create shell script for Packer Provisioner that automatically tag EBS root volume during instance bootstrap which helps with EBS cost breakdown by Metadata tags.
- Service Monitoring: Build a monitoring system for simple email service (SES) to track email bouncing. Send SES event to Simple Notification Service (SNS) topic and configure a Lambda function to be the SNS topic subscriber. Integrate with Slack to receive SNS message publication via incoming webhook.
- Network and security: Carry out a hotfix to enable service access by modifying inbound rules for the ELB security group. Refactor terraform code to create the module for the account-level configuration that manages password policy and CloudTrail. Perform software patching to deal with security vulnerabilities.

Salesforce.com Inc, Cambridge, MA   **Software Engineer Intern**   **Jun. 2019 - Aug. 2019**

- Worked at the Commerce Cloud infrastructure team that builds and operates large-scale recommendation system, which supports over 700 business and over 2000 websites, using **AWS, Terraform, Docker** and **Kubernetes**.
- Developed a tool that enables data scientist to test recommendation strategies directly with real-time recommendation service, by creating or updating containerized data science models onto AWS ECR; Implemented server-side code in **Node.js** to handle HTTP request from realtime service to model containers.
- Deployed model containers on AWS EKS cluster using Terraform, Kubernetes and **Helm**: Created deployment and service for model containers managed in pods; Configured routing to the corresponding service with ingress controller; Applied network policy to prevent unwanted traffic from model container pods into database.
- Created a new strategy to bundle EC2 target groups that speed up code deployment for realtime recommendation web service by more than 50%; Refactored existing Infrastructure as Code by migrating bash script to Terraform.

Kuebix, Maynard, MA   **Software Development Intern**   **Jun. 2018 - Dec. 2018**

- Built cloud-based **SaaS** Application using Salesforce tech stack (**VisualForce, Apex**) and **AngularJS** following **Agile** methodology and branch-based Git workflows.

EDUCATION

Northeastern University, Boston, MA, USA   **Sep. 2017 - Dec. 2019**

M.S. in Computer Science GPA 3.71
Courses: Algorithm, Computer System, Web Development, Database, Parallel Data Processing, Programming Language

Peking University, Beijing, China   **Sep. 2009 - Jul. 2013**

B.S. in Biological Science GPA 3.42

PROJECTS

Cloud-Native High Performance Computing   **Sep. 2019 - Dec. 2019**

- Provided simple, user-friendly command-line scripts to setup High Performance Filesystem Lustre on Kubernetes, to make Lustre portable across different cloud platforms and automate its deployment, elasticity and management.
- Created Docker image to boot virtual machines for Lustre components, managed VMs in Kubernetes pods with Kubevirt, provided startup script to automate Lustre configuration and bootstrap.
- Performed benchmarking to evaluate I/O and metadata performance on non-k8s and k8s based Lustre.