Hua Zhang
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Technical Skills

An innovative software engineer with 10 years of development experience, and had expertise in:

- Web application and data visualization using ReactJS/HTML5/CSS3/Material-UI
- RESTful API and Microservices development in Java, Node.js and Python
- Real-time data pipeline with Hadoop, Spark, Kafka, OpenTSDB, Sumo Logic, Splunk
- Fault tolerant distributed system design, performance analysis and traffics manipulation
- Data infrastructure design: MySQL, PostgreSQL, MongoDB, InfluxDB and Redis
- Service-oriented architecture and Web service protocols (HTTP/SOAP/SNMP)
- Automated test with JUnit, TestNG, Mocha and Chai, LoadRunner, Jmeter
- Expert in SCM and DevOps tools: Git, Docker, Kubernetes, Ansible, Azure and and Amazon EC2

Experience

- **Visa Inc.** — Foster City, CA
  Senior Software Engineer — *Sep 2017 - Present*
  - OperA (operation analytics)2.0 project in DMPD (Digital & Mobile product platform)
    OperA was a Real-time monitoring system and Alerting Dashboard, Workflow management tool for DevOps engineers
    Designed and implemented RESTful APIs using Java, Spring Boot, MongoDB, Redis and OpenTSDB
    Implemented Alert/ Monitoring statistics report for Visa data centers using React/Material-UI
    Built real-time metrics pipeline with Bosun, Hadoop, Kafka, OpenTSDB and Splunk
    Predictive analytics with machine learning algorithms using Python and Spark

  - OperA (Diagnostic and Automated Remediation) in DDP (Digital and Developer platform))
    This system was an event driven runbook automation platform for Visa DevOPs engineers. It acted as Tier-1 support for DevOPs to operate their services for high availability and resiliency
    Implemented Automated remediation: identify system failures on compute node, clean up disk space, restart instances, emailing admins about potential downtime and freeze the workflow (Java/Spring Boot/ StackStorm)
    Designed facilitated troubleshooting module: triggering on system failures captured by Nagios, run a series of diagnostic checks on app components and post results to Visa JIRA
    Implemented alerts lifecycle management, compliance/auditing, persistence, security (authentication/authorization) and role based access control(Python/Redis/MongoDB/ PostgreSQL)

- **Futurewei Technologies Inc.** — Santa Clara, CA
  Senior Software Engineer — *Sep 2016 - Sep 2017*
  - Autoshift REST API design, infrastructure setup and maintenance
    Autoshift was an automated, intelligent deployment and operations management system for cloud-native applications running on container-based cloud platforms
    Participated in requirements analysis activities, utilized machine learning algorithms to generate recommendations for optimized deployment plans on Kubernetes cluster
    Implemented OAM UI using React/Redux/Webpack/CSS
    Built a real-time streaming pipeline with Kafka, InfluxDB and Telegraf
    Designed APIs to scale Kubernetes resource: replicas, CPU and memory using Java and Spring

  - Container Network virtualization application (Autorender-UI, Weave Scope network Plugin)
    Designed monitoring dashboard for Docker container networks visualization and management(React, Kubernetes)
    Developed Weave Scope network plugin to control and monitor network performance (bandwidth, latency), enable user to modify performance parameters of containers network interfaces (Golang, InfluxDB)

  - Layer 2/ 3 Network verification platform (Search, Verify and Predict)
    Implement network verification Microservices (search, verify and predict), to enable user search and identify network paths using easy query language, find any device on their network, keep network healthy by verifying device configuration, predict changes will affect user's network (Java/Python)
    Designed intuitive UI application using React and Redux to verify the devices: VLAN, Router/ Switch
    Built Huawei data center network topology graph using react-vis,Django and MySQL

- **AboveGEM Inc.** — Santa Clara, CA
  Senior Software Engineer — *June 2015 - Aug 2016*
  - Organogold.com Website (BackOffice feature) development and maintenance
    Organogold.com is the biggest customer of AboveGEM. As the core developer, work closely with product manager to translate business requirements to technical design
    Created a clean design, wrote quality code with appropriate unit tests, document the APIs
    Implemented instant monitor system with graphic interface by React
    Contribute to the continuous improvement of recommendation algorithms for performance Wrote Python scripts for Nagios to monitor web services and Redis cluster
    Cooperated with Front End development team for troubleshooting

- – Becomebeauty.com (User management and Marketing tracking features) development
  Developed user interfaces and backend APIs for user profile management, image recognition and marketing strategy daily/weekly/monthly tracking features using AngularJS/ Bootstrap
  Visualized and analyzed logs via Java, ElasticSearch, Logstash, Kibana and Hadoop
  Analyzed and improved the efficiency, scalability and stability of system and resources
  Wrote adequate functional, compatibility and regression test scripts

- **Diebold Inc.**   Canton, OH and Shanghai, China
  Senior Software Engineer/Tech Lead   *Sep 2008 - Aug 2013*
  - – Bulk Cash Recycler Module-USB Firmware Download Feature
    Technical lead - controlled schedule, dealt with cross team issues
    Implemented new feature and optimized existing one to drive maximum performance using C++
    Collaborated with product management to design, build and test feature
    Excelled in Agile application development, drafted the design doc, coding, and unit tests

  - – Enhanced Operator Assistant Suite
    A turn-key maintenance solution for Bank operators on Opteva and Haibao ATMs
    Used C#, WPF, .NET framework& jQuery in development to empower the operators to diagnostic ATM banknote jams
    Solved test issues and supported package deployment on site
    System maintenance and technical support for China Construction Bank

- **Alcatel-Lucent**   Shanghai, China
  Software Engineer   *Jan 2006 - Aug 2008*
  - – Alcatel-Lucent 8650 SDM (Subscriber Data Management) for T-mobile
    SDM provided comprehensive solution for managing subscriber related data, transparently intercept and extract real-time information from vast amounts of voice, data and multimedia communications
    High level design and low-level design, develop with SOAP, complete encode/decode feature using Java/SOAP/XML/MySQL
    Increased call attempts per second by 60% by introducing multi-threading mechanism to achieve more efficient CPU usage
    Implemented lawful interception feature through cooperation with US colleagues(Java/SOAP)

  - – CPEMS(Customer Premise Equipment management System) for China Unicom
    CPEMS was a Browser/Server system which managed the configuration and firmware version information of customer-posted devices(Video phone) for China Unicom
    Participated in requirements analysis, detail design for this Browser/Server system to manage customer-posted devices using .Net Remoting framework and SNMP C++ library
    Implemented device alarms management and batch uploading files features(C#/C++/SNMP)

Education

- **Washington State University**   Vancouver, WA
  M.S. in Engineering and Computer Science   *2015*
- **Huazhong University of Science and Technology**   Wuhan, China
  M.S. in Software Engineering   *2006*