Mengsu Zhou

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TECHNICAL SKILLS

- **Programming Language:** Java, MATLAB, C# , Python, HTML, CSS, JavaScript, SQL
- **Databases:** Relational Database (Oracle, MySQL) and NoSQL Database (MongoDB)
- **Computer Science:** Data structures and algorithms, OO design; Distributed systems design and development (MapReduce), Machine Learning

WORK EXPERIENCE

Baker Hughes Inc. — Houston, TX
Research Scientist — 02/2015 - 03/2017
- Reservoir navigation services(RNS) was a dynamic, interactive software which enabled users to view the real-time activity of oil drilling. I implemented 2D visualization for RNS using **C#**. It helped the field engineers to monitor the real-time position of logging tools and maximized production by keeping it in the pay zone. Production with RNS was 48% higher compared with the offsets.
- Prepared and provided tutorial presentations for customers about RNS application, provided technical support for field engineers.
- Generated benchmark models for signal simulation to test software efficiency and accuracy, analyzed software performance by comparing the simulation speed with **MATLAB**.
- Documented research reports and discussed with college scientists and engineers in weekly meetings.

Baker Hughes Inc. — Houston, TX
Research Intern — 05/2014 - 08/2014
- Designed drilling and logging tools, built physical models for simulation to test tool's efficiency, delivered analysis results.
- Gave presentations in company and helped to determine technical strategy about tool development.

PROJECTS

AWS based Job Recommendation system
- Developed an interactive web page for users to search job positions (HTML, CSS, JaveScript, AJAX).
- Designed algorithms (content-based) to implement personalized job recommendation.
- Created Java servlets with RESTful APIs to handle HTTP requests and responses.
- Used MySQL database on Amazon RDS to store job data fetched from Github API.
- Used MonkeyLearn API to extract keywords from job descriptions.

Spring and Hibernate based Shopping system
- Used Spring framework to build a web application for users to shop and order items online.
- Built a web application based on Spring MVC to support item search and listing (dependency injection, inversion of control, REST API etc.).
- Implemented security workflow via in-memory and JDBC authentication provided by Spring Security.
- Utilized Hibernate to provide better support of database operations.
- Developed a fulfillment system by leveraging AWS Lambda and AWS Step Functions.

React JS based NBA Player Strength Visualization
- Created a dashboard using React, D3 and Ant Design backed by data crawled from stats.nba.com .
- Visualized individual playerÕs shot data, including a shot chart and user profile view.
- Created multiple extra filters and shot themes(hexbin and scatter) to provide more customized visualization on the shot chart.
- Developed an autocomplete player search bar providing a list of players in the suggestion list.

Tinder-like News App
- Designed the Instagram Flavor News app based on Google Component Architectural MVVM Pattern.
- Implemented the bottom bar & page navigation using JetPack navigation component .
- Utilized MindorksÕ PlaceHolderView to support swipe gestures for liking/disliking the news.
- Built the Room Database with LiveData & ViewModel to support local cache and offline model.
- Integrated Retrofit and Rxjava to pull the latest news data from a RESTFUL endpoint (newsapi.org) .

EDUCATION

University of Houston — Houston, TX
Master of Science in Electrical Engineering (GPA : 3.7) — 08/2012 - 12/2014
- Delivered a scientific publication and an oral presentation in annual meeting of SEG (Society of Exploration Geophysicists) 2014.

Nanjing University of Aeronautics and Astronautics — Nanjing, China
Bachelor of Science in Information Engineering (GPA : 3.6) — 09/2008 - 06/2012