

Minglong Pan

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SUMMARY

Data Driven Professional with a wide range of project experience, including **web application**, **mobile development** and **data analysis**. Strong knowledge of computer science and solid programming skills in **Java**, **HTML/CSS** and **JavaScript**. Familiar with popular frameworks **React**, **Spring** and cloud computing platforms including **GCP** and **AWS**.

WORK EXPERIENCE

Seismic Imager (Software Engineer in Geophysics), CGG Geophysics Inc June 2018-Present
U.S. Seismic Imaging Dept, focusing on building 3D subsurface images.

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- Wrote/maintained a large number of scripts mostly in **Perl, Java, Shell and Python** for data managing and manipulating on distributed file system.
- Implemented various digital signal processing **algorithms**, such as Fourier transform, Tau-P transform, filter design, in **Perl/Java/Python** to separate primary signal, which optimized the reflection sounding to clean, accurate 3D subsurface images with 5 decibels+ (316%) signal to noise ratio improvement.
- Processed petabytes of seismic data covering more than 120 km³ subsurface volume for noise attenuation, regularization and interpolation to support multi-million-dollar proprietary **data processing/visualization** projects with Big Oil & Gas Clients. Improved processing workflow with 8.34% project time saved.
- Utilized programming language such as java, python for software/**module testing** and release in production.
- Implemented high-precision pixel-level image segmentation (salt body interpretation) with deep convolutional networks (CNN)
- Implemented data visualization dashboard with cloud computing platforms.

SKILLS

Programming Languages: Java, HTML, CSS, JavaScript, Perl, MATLAB, Python, SQL, Shell

Databases: MySQL, Elasticsearch, MongoDB

Frameworks and Cloud Platform: *RESTful, React, Google Cloud, AWS, Spring, Hibernate, Ant Design, D3*

EDUCATION

Rice University Houston, TX **GPA: 3.79/4.00** August 2016-May 2018
M.S. in Earth Science, Geophysics Track, *specialized in signal processing in Seismic Related Field*

Yangtze University, Hubei, China August 2012-June 2016
B.E. in Resource Prospecting Engineering

PROJECT EXPERIENCE

Gamer+: Personalized Twitch Resources Recommendation Engine

- Designed and built a full-stack web application for users to search twitch resources (stream/video/clip) and get recommendations.
- Built a web page with rich + user friendly experience using **React** and **Ant Design**.
- Created **RESTful APIs** based on Java Servlet to handle HTTP requests including resource search, favorite and recommendation.
- Used **MySQL** database on Amazon RDS to store the position data fetched from Twitch API.
- Implemented a content-based recommendation algorithm based on users' favorite history.
- Dockerized the application and deployed to Amazon EC2 for more visibility.

Artemis: a Spring and Hibernate based Shopping and Ordering system

- Used the Spring framework to build a web application for users to shop and order items online.
- Built the backend services based on **Spring MVC** to support item search and listing (dependency injection, inversion of control, REST API etc.).
- Implemented a security workflow for user authentication with the Spring Security framework.
- Created a MySQL database to store user data and utilized **Hibernate** to provide better support of database operations.
- Developed a Spring Web Flow to support the order checkout process.

Tinnews: a Tinder-like News App

- Designed a Instagram Flavor News app based on Google Component Architectural **MVVM** Pattern.
- Implemented the bottom bar & page navigation using JetPack navigation component.
- Utilized 3rd party CardStackView(RecyclerView) 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 LiveData to pull the latest news data from a RESTFUL endpoint (newsapi.org).