Ji Liu

709327148@qq.com · (+86) 150-0019-3830 · GreyPlane ·

About

I'm a self-learned programmer who has a bachelor's degree in Communications, working across almost the whole life-cycle of modern application development, but especially focusing on Functional Programming and Stream Processing. And with some academic interest in Programming Language Theory and Distributed Systems, read some papers, and do a little bit of research as a hobby. Currently work at Convertlab, a leading digital marketing company in China.

Education

College of Publication, **Shanghai Publishing and Printing College** 08/2015 – 06/2018

Bachelor of Communications, **University of Shanghai for Science and Technology** 08/2018 – 06/2020

Work Experience

Convertlab Inc. 04/2021 – /

(Data Engineer) Data Team

- One of the only two developers who develop our own Flink-like streaming processing platform which is based on Akka and Scala, which allows user to define a topology of marketing actions then execute it automatically.
- Regular data processing using Spark, for example, based predefined tag partition customers into different stages.
- Design and implement a middleware that batches upstream messages and ensures the exactly-once delivery semantic by using Akka Stream and Kafka Stream.
- Delivery a POC project for knowledge graph by using Neo4J and Scala typelevel stack, implement CRUD based on Ontology relations and a basic search.
- Regular web-backend development based on Spring and Grails, using Java or Groovy for company's flagship product DMHUB.

Convertlab Inc. 06/2020 – 03/2021

(React Front-end Engineer) Application Team

- Application development based on React and Redux, using Typescript.
- Integrate Typescript toolchain into the existing webpack build pipeline, enable our team to migrate to Typescript gradually.
- Develop UI components library based on ant-design.

Personal Projects

AlgebraicGraph https://github.com/GreyPlane/algebraic-graph

algebraic graph implemented in Scala

- Using encoding describes in this paper to build a library for constructing the topology of our Flink-like component programmatically, is an elegant solution because the good algebraic properties holds by the encoding, implement both TypeFamilies-based and ADT-based encoding in Scala.

Skills

- **Program Language**: multilingual (not limited to any specific language), especially experienced in Haskell Typescript Scala, comfortable with Java Groovy (in random order).
- **CS Basic**: learned CSAPP and SICP, has solid CS foundation, also learned some PL theory.
- **Development Tool**: Can adapt to any editors/OSs, usually use Vscode, IntelliJ, Emacs under MacOS.
- **Backend**:
  - Using Akka ecosystem's most commonly used components like actors, streaming, HTTP, etc. and also Akka contributor.
  - Experienced in Cats ecosystem libraries, Knowing how to do generic programming by using Shapeless.
  - Understanding Microservices and containerization technology like K8S and Docker, can delivery whole project independently.
- **Functional Programming**:
  - Capable to adapt functional programming technique in the real world project.
  - Able to solve the complicated problem that involves advanced topic about type theory or category theory.
- **Web Frontend (React)**: **1 years** of experience
  - Experienced in React and Hooks API.
  - Experienced in Typescript

  - Experienced in the ecosystem around React, includes but is not limited to routing, state management, query library, can delivery project independently.
- **BigData**:
  - Understanding basic topics about the distributed system such like consensus algorithm, delivery semantic.
  - Have Deep knowledge of Kafka and general streaming processing framework, have experience of developing real-time data processing pipeline.
  - Use components in Hadoop ecosystem like HBase, Impala, Kudu.
  - Have a basic understanding of Spark.
- **Evangelist**:
  - teaching Typescript and Scala for colleagues, helping them to solve problems associated with types.

Miscellaneous

- Languages: English - fluent
- **3 kyu** on CodeWars, primarily in Haskell, Agda and Idris