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# TONG WANG

Software Engineer - Blockchain, Data Engineering, proficient in Go, Java, Solidity, Type/Javascript, Python, C  
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## EDUCATION

University of San Francisco (2018 - 2021) Master's degree in Computer Science GPA - 3.91

Key Courses: Big Data, Data Processing in Cloud, Data Structure and Algorithm, Object Oriented Programming, System Foundation, Parallel Programming, Software Development

Tongji University(2010-2015) Bachelor's degree in Architecture

## WORK EXPERIENCE

### **cLabs, Celo(blockchain) - Software Engineer Intern (May 2020 - August 2020)**

- Optimized block processing efficiency for miners/validators, reduced computation load for 61%.
- Designed & Implemented a standalone signing service for miners/validators using clef along with threshold signatures, accomplished Zero downtime validator upgrades within an epoch, and failover with no risk of double signing.
- Tech stack: **Go/Golang, Solidity, Typescript, EVM.**

### **Amazon - Software Engineer Intern (May 2019 - August 2019)**

- Built a web app for onboarding, saving 2 hours per request, tens of thousands of requests per day.
- Designed & Implemented frontend user interface: **React, Javascript.**
- Designed & Implemented backend: **Java, Bash, SQL, DynamoDB, S3, SQS, AWS services.**
- Designed & Implemented **RESTful APIs.**

### **UX Designer at Tezign (2016 - 2018)**

### **Co-Founder at Yichou Ad. Platform (2015)**

## PROGRAMMING PROJECTS

### **Distributed File System(Java)**

- Built the distributed file system with key features: Probabilistic Routing, Entropy-Driven Compression, Parallel retrievals, Interoperability, Fault tolerance.
- Controller: Routing table (Bloom Filter), Node failure detection, Coordinating replica maintenance
- Storage Node: Detecting (and recovering from) file corruption, Automatically compressing low-entropy files, Coordinating replica maintenance, Heartbeat messages, Storing chunks and checksums on local disks.
- Client: Storing files, Retrieving files in parallel, Viewing node list, disk space, and requests.

### **Social Network Analysis(Spark, Scala)**

- Calculated the TF-IDF for a given subreddit.
- Used Sentiment Analysis for the detection of toxicity.
- Wrote a job that computes Gunning Fog Index and Flesch-Kincaid Readability.
- Wrote an information retriever, given specific users, it provides every relevant information.
- Clustered related users, made friend graph on top of the result.

### **Data Pipeline(Java Beam SDK, BigQuery, Google Cloud Platform)**

- Use MapReduce framework use beam to develop an end-to-end data processing pipeline that can process big data in GCP.
- Analyze large, complex data using BigQuery and provide analytic insights.

### **Full-stack web app - Sentiment Sensor(Javascript, Python, MongoDB)**

- Built a full stack that can predict the sentiment of user input, with 95% accuracy.
- Designed and implemented an SPA(Single-Page-Application) using React/Javascript.
- Designed and implemented backend with RESTful APIs using Python & MongoDB(NoSQL).
- Integrated NLP model after trading on top of pre-defined model with dataset from Wiki.

## ACTIVITIES

- LGBTQ event - Lesbians Who Tech + Allies Summit.
- Black Lives Matter protest at San Francisco.