Aaron Wang

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EDUCATION

- **Institute of High Energy Physics, University of Chinese Academy of Science** — Beijing
  M.Eng in Computer Science; — *Sep. 2010 – Jun. 2014*

- **Southwest Jiaotong University** — Chengdu
  B.S in Software Engineering; — *Sep. 2006 – Jun. 2010*

PROGRAMMING SKILLS

- **Languages**: C++, Objective-C, Swift, Python, JS

- **Technologies**: Video/Audio Process, ML/DL Engineering, iOS App Development

- **Platform & Toolkit**: OpenCV, FFmpeg, Torch, Tensorflow, AWS, Mysql, Redis

EXPERIENCE

- **Alibaba** — Guangzhou
  Staff Software Engineer — *2020 - Present*
  Senior Software Engineer — *2017 - 2020*
  Software Engineer II — *2016 - 2017*
  - **News Feeds**: News feeds, especially video feeds is the most important part in UC and contributes more than 50% DAUs. I managed the mobile development team and built the whole video feeds from scratch which has competitive QOE/QOS. Designed series considered strategies make our business keep reasonable cost and help user scale rapidly growing
  - **Video Record/Edit/Transcode SDK** : Built a cross-platform video process framework in C++ based on FFmpeg. The framework is able to easily read from multi-type input(camera/image/video) by multi-type codec(software codec/ios,android hw codec), add multi-type effect(GPU/CPU) and generate multi-type output(screen/video/image/livecast)
  - **uPipe: Realtime ML Pipeline Framework**: Derived from Google's mediapipe framework, provides high efficient graph-based abstration for most of the live ML task. We deeply tailored the original version to achieve extreme computing performance by leverage CPU and GPU, supports more flexible integration method and largely reduced the package size.
  - **Falcon: Cross Platform Dynamic UI System**: Designed a dynamic UI system which is able to translate HTML/CSS files into AST and generates native UI components. The system make app UI update instantly without publish new version. Compared to webview, this system has much better performance because it renderer all elements as native UI component.
  - **Quark Browser** : Developed brand new mobile browser app 'Quark' from scratch in 2017. It focus on simplicity and AI-powered tool and provides completely different experience from UC. Now Quark is already one of the most popular browser app in China.

- **Xiaoher** — Shenzhen
  Tech Co-Founder — *May 2012 - Jun 2016*
  - **Company Intro**: Xiaoher is a B2C e-commercial website which has similar business mode like VIPSHOP/Zulily. We raised more than 4 million USD from LightSpeed LLC and Sequoia Capital.
  - **Role**: Managed whole technology team including app, server, fronted and data analysis and collaborated with product team to deliver various products to both internal and external users.
  - **Case1: Transcation System**: Built a lightweighted distributed system which able to handle order placing at 600qps. By leveraging multi instance mysql&redis, the system run steadily more than 500 days meanwhile the scale of orders keep rising rapidly
  - **Case2: SKU Crawler System**: Designed a client-server infrastructure enable crawler task can be dispatched to various worker machine to get task finished. Many UA hidden strategies also be implemented in worker-side application in order to fight against the anti-crawler policy of target website.

- **Intenships**
  Morgan Stanley, Analyst(using Perl) at Realtime Market Data Group, Shanghai — *2011*
  Microsft, C# Desktop Engineer at Office Team, Beijing — *2010 - 2011*
  Tencent, C++ Backend Engineer at QQ Group, Shenzhen — *2019 - 2010*

Talks

- **Build your own nerual nerwork engine in Swift**: *Online tech livecast.* Demonstrated how to implement a simple network structure with backpropogation and forward inference support.
- **Swift for TensorFlow**: *atSwift Conf 2018.* Introduced an interesting project created by Chris Lattern – Swift for Tensorflow. The talk including basic usage, core design principle and two examples.
- **From Observer to Observable: Improve maintainability of Giant iOS Project by Functional Swift**: *QCon 2018.* Demonstrated how to implement elegant error handling, low coupling message dispatching and MVVM binding in giant project by using functional thinking.
- **Functional Design Pattern**: *iDev 2016.* Talked about design patterns in functional world. The talk including function for decoupling, monad for error handling and logic composition, FRP for event handling and parser combinator for DSL implementation