Peter Jiang

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EDUCATION & AWARDS

Rutgers University, the State University of New Jersey, New Brunswick, New Jersey, USA Sep 2015 – Jan 2018
Master of Science in Electrical and Computer Engineering, Concentration: Computer Engineering GPA: 3.9

South China University of Technology (SCUT), Guangzhou, China Sep 2011 – July 2015
Bachelor of Science in Engineering **Award:** Third-class Scholarship of SCUT (2013-2014)

EXPERIENCE

Amazon, Seattle, Software Developer Jan 2020 – Present

Tech lead of a team of 7 and launched a critical component of the very first Amazon-hosted digital banking product for emerging market customers:

- Designed and delivered 20+ back-end APIs from scratch to support complicated in-house banking business needs, including full-fledged banking features
- Design and implemented micro service to provide Banking-as-a-Service to Amazon internal clients seamlessly integrated with existing platforms
- Expected to have US$500MM business impact in the first launched marketplace

Delivered a critical component of an external payment processing partners' outage system:

- Minimized the impact and loss of orders when partners not available with coverage of over 100+ partner integrations
- Detected hundred to several thousands (6,000+) actionable outages on a monthly basis
- Increased Amazon payments system resiliency across the board by reducing the typical outage detection time from up to 30 mins to 5 mins
- Co-authored and filed US patent

Achieved Indian Payment Aggregators and Payment Gateways (PAPG) regulation and data localization compliance for one critical payments components:

- Designed the data distribution mechanism and data localization to securely handle the data according to the regulation, including localizing the data storage to the required sovereign and jurisdiction with maximum compatibility with the existing systems
- Decoupled the data between Payment Aggregators and Payment Gateways in the subscription system to comply with the regulation

Implemented an upfront charge mechanism to reduce friction introduced by Europe PSD2 regulation for pre-sale orders:

- On an average 250k charges created on a daily basis with maximum over 500k
- Reduced possible loss due to the friction re-authentication experience of millions of euro per day

SIG: Susquehanna International Group, Philadelphia

Software Developer Feb 2018 – Dec 2019

- Participated in designing and implemented an ultra-low latency C++ gateway: ~30% faster than industry average (measured by median latency) and expected to deal with millions of orders without noticeably compromising performance (even faster for 99 percentiles but with more slower outliers)
- Designed a message validation software capable of applying over 30 sophisticated checks on ~100 million messages per hour. Further optimized the system to consume only a few gigabytes memory; as a comparison, a similar system in the environment takes over 12 hours and 30~40 gigabytes memory
- Improved multiple components with the ability to send a more flexible field. Simplified six upstream teams' logic
- Developed sophisticated testing tools including both functional and performance testing for my team and infrastructure team to do health check before new machine put into production. Added coverage for black box testing.

Software Developer Intern Jun 2017 – Aug 2017

- Optimized a latency analyzation system and reduced the analyzing time from 4 ~ 8 hours to 0.6 ~ 1.5 hours
- Improved one of the core order routing C++ systems dealing with ~20 million orders per day by adding mapping logics; six upstream teams did not have to make changes that they had had to
- Developed a NYSE Pillar database validation system cross checking internal database with NYSE exchange database in Python
- Profiled the performance of one of the core order routing systems written in C++ with perf, FlameGraph and Python; found a bottleneck and improved the performance by reducing the overall latency by 15%

RESEARCH EXPERIENCE

Stock Price Trends Predicting System Based on NLP Sentiment Analysis, Rutgers University Jan 2017–May 2017

- Preprocessed text contents with NLTK from Twitter and Stocktwits with Python: removing hyperlinks, citations, tickers, stop words and numbers; tokenizing the sentences to a list of words
- Extracted the features by *bag of words* and *word2vec*, trained SGD and ANN model for binary sentiment prediction
- Trained SVC, GaussianNB and SGD classifier for stock price trend prediction. Achieved 0.73 accuracy for sentiment prediction based on the one-year data we used; achieved the best accuracy of 0.67 for stock close price trends prediction over one month
- Led a team of five and designed a stock tracking and predicting system
- Implemented Bayes, SVM, ANN based prediction algorithms and RSI, EMA prediction indicators

SKILLS

Technical: Java, C/C++, AWS, Android, PHP, Java, Python, JavaScript, Assembly Language, CSS, MySQL, ISPC, CUDA