Enya(Xi) Yang

Goal: Algorithm /Machine Learning Engineering
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Qualifications/Skills

- Languages: C++ (5 years), Python(2 years), Shell(2 years), JAVA(1 year), Node.js/JS(1 year), SQL(1 year)
- Apps&Systems: Linux, Mac, CircleCI, Docker, Hadoop, Octave
- Skills: Data Cloud Platform Development; Trading System Development;Desk Application Development; Data Modeling and Analysis; Big Data; Machine Learning and Deep Learning
- Webpages: https://www.linkedin.com/in/xi-yang-784b108b

EDUCATION

UNIVERSITY OF MICHIGAN-ANN ARBOR Ann Arbor, MI
Master of Financial Engineering *GPA: 3.73 / 4* July 2013 – December 2014
Key Courses: Data Structure and Algorithm; Statistical Analysis of Data; Stochastic Analysis; Time Series Analysis; Discrete Stochastic Processes; Programming and Introductory Data Structure (C++)

TIANJIN UNIVERSITY OF TECHNOLOGY Tianjin, China
Bachelor of Computer Science *GPA: 3.60 / 4, Rank: 2%* September 2009 – June 2013
Key Courses: Web Design and Programming; Object-oriented Programming (C and JAVA); Database and Function Analysis;
Honors: Outstanding Graduate (Top 1%); Scholarship for Social Work;
First-class Scholarship and Honor Student (2009, 2010, 2012);

CERTIFICATE

Deep Learning Specialization Certificate DeepLearning.AI, Coursera (April.2021)
Courses: Neural Networks and Deep Learning; Improving Deep Neural Networks; Structuring Machine Learning Projects; Convolutional Neural Networks; Sequence Models

EXPERIENCE

AUTONOMIC Shanghai, China
Software Engineer II/ Data Cloud Platform (Fulltime) Aug 2020 – Present

- Maintain and improve device SDK by enriching features and functions of it, building programs to verify and guarantee its validation and keeping it consistent with latest version from server side. Programming by **C++** , **Python and Shell.**
- Improve performance of the data filter application by building up a new protobuf messages' parser and adding monitoring metrics. Programming by **JAVA**.

UBS Shanghai, China
Software Engineer/ Pricing Tool (Fulltime) Dec 2018 – Apr.2020

- Improve quoting and booking tools by adding and modifying features and applying effective and advanced technical skills, modules and packages.
- Develop by **Node JS/Javascript** to build desk application to achieve automation pricing which reduces business time consume significantly.
- Communicate with business side to achieve their goals efficiently. And also work with supervision team together, to analyze and maintain the application's performance and stability.

MORGAN STANLEY Shanghai, China
Software Engineer/ Trading System (Fulltime) July 2017 – Dec 2018

- Expert in developing low latency and high stability and scalability trading system to support various trading protocols required by different exchanges.
- Programming by **C++** under **Linux** to enable new features, to improve system' performance and to achieve customize scope.
- Effectively conducted tests on different levels and scopes through **Python** and **Shell** scripts for both new production going live and exchanges' mandatory tests.

FIS GLOBAL COMPANY Ann Arbor, MI
Software Engineer/ Web and UI (Fulltime) April 2015 – March 2017

- Proficient in programming to build scalable software. In depth knowledge and experience in Software and UI development.
- Efficiently improved current software production by examining existing defects and incidents and developing new features on both user interface and back-end, using **C#, .Net Framework, JavaScript** and **SQL**.
- Actively assisted manager and team with projects involving UI design, database and code review.

WECASH TECHNOLOGY COMPANY Beijing, China
Data Analyst (Internship) June 2014 – August 2014

- Accurately evaluated customers' credits by identifying most important data items, researching and performing quantitative methods and regression models, using **C++, Matlab** and **R**. Improved existing models' accuracy by 15%.
- Proficient in data analyzing, cleansing, modeling and consolidation. Effectively supported company's credit strategy ofusers.
- Analyzed data by calculation and plots through Excel and R.

MAIN PROJECTS

Conversion Rules Improvement and Validation / Autonomic - SDK Improvement Dec. 2021 - Jan.2022

- Improved SDK converter by enriching and modifying mapping rules. Replaced the original converter successfully and kept all behaviors' consistency from client side.
- Built up conversion validateor program to create test cases and to compare differences of conversion results which provided a convenient and efficient way to valid the accuracy.
- Technology: **C++, Shell, Python, Protobuf**

Hot Update on SDK Mapping / Autonomic - SDK Improvement Jun.2021 - Jul.2021

- Applied 'file descriptor set' into mapping configuration by which new types of protobuf messages can be parsed as dynamic messages and inserted as 'unknown fields' into their parents messages conveniently. Significantly reduced the frequency of recompiling from client side's application.
- Created fake protobuf messages and concatenated them with original proto files to support pertinent tests.
- Technology: **C++, Shell, Python, Protobuf**

Evolved Protobuf Parser / Autonomic - Protobuf Parser Tool Development Dec. 2020 - Jan. 2021

- Created parser to traverse byte array protobuf data recursively based on protocol buffers encoding rules. It can skipped uninterested fields and types from top level by building messages graph which can reduce time consume significantly.
- Achieved effective interaction with customers by providing interfaces to define customized behaviors during each step of parsing.
- Decreased time consume by around two thirds after applying this tool to existing data filter project.
- Technology: **JAVA, Protobuf**

Face Verification and Recognition / Self Training - Deep Learning Mar. 2021

- Implemented triplet loss algorithm and neural network function to fit face images data.
- Applied pre-trained model to verify and recognize people by pictures with above 0.7 of confidence rate.
- Technology: **Python, Tensorflow**

Cat and Non-Cat Images Identifier/ Self Training - Deep Learning Nov. 2020

- Build L-layer **neural network** models to fit cat and non-cat images data.
- Applied **forward and backward propagation** algorithms to optimize cost function and improve this model.
- Splitted data set into training set and test set. Applied this model on them and achieved 98% and 80% accuracy.
- Technology: **Python**

Hand-written Digit Recognition/ Self Training - Machine Learning May. 2020

- Implemented **neural network** algorithm by training 5000 pieces of hand-written digit data to predict handwritten digits, through using backward propagation to get gradients of parameters recursively, to minimize cost function and to get optimal solution.
- Applied linear and logistic regression model for each layer in the neural network. Through adjusting maximum iteration times and implementing regularization, the prediction accuracy can get above 97%.
- Technology: **Octave**

Multiple Linear Regression/ UBS - Pricing Tool Development Jun. 2019 – Aug. 2019

- To support applying advanced pricing method, which caused a long time compared with normal way, achieved multiple liner interpolation method by using recursion algorithm through Javascript. Reduced time consuming by 2/3.
- Created grid mapping factors as key, and differences between quoting results by two methods (the advanced one, and the normal one) as value automatically by shell script and crontab job and saved the daily grid in CouchDB every morning, which will be used in the multiple liner interpolation for the same day.
- Technology: **Node.js, shell, crontab, CouchDB**

Analyze Daily Resolved Requests Volume/ UBS - Pricing Tool Maintain Mar. 2019

- Queried and analyzed daily contracts and requests resolved by the pricing tool, including analyzing volume of requests sent by different clients in different period of time and calculating average time consuming per each request to get a comprehensive understanding of the workload and performance of this tool, which is of great significance to improve this application based on the result.
- Applied map and reduce interface and template to query documents in couchDB and created view to keep tracking data per day. Automatically developed this daily analyze reports by running shell scripts and applying crontab job.
- Technology: **CouchDB, Shell, Crontab**

Enable Half Tick Hidden Feature/ Morgan Stanley - Trading System Development Apr. 2018 – Jul. 2018

- Enabled half tick hidden feature by using API provided by exchange. Significantly improved trading system' functionality to support clients and applications' requirements.
- Effectively achieved this feature on every aspects, including requirements for new, amend and cancel orders, acknowledge and fill messages from exchange, queries and recovery cases conducted by application.
- Performed series of tests covering each normal and corner case by scripts to valid functional objectives are fully met.
- Technology: **C++, Python, Linux**

Movie Recommender System/ Self Training - Big Data Mar. 2017 – Apr. 2017

- Using data from Netflix, based on users' rank for movies and similarities between each movie, built up the recommender system.
- Developed covariance matrix for each movie. Achieved multiplication between matrixes. Effectively provides users movies through taking several map-reduce models.
- Technology: **Hadoop, JAVA**

Logistic Regression Model / Wecash - Data Analysis and Machine Learning Jun. 2014 - Aug. 2014

- Effectively performed data analysis to identify principal component features. Developed logistic regression model from 50000 users data points to assist credit decision. Accurately predicted and evaluated new users' credit.
- The developed model is 15% more accurate than previously deployed models.
- Technology: **Matlab, C++, R**

Option Pricing and Development of Portfolio/ Umich - Data Analysis and Modeling Jun. 2014 - Aug. 2014

- Calculated risk-neutral prices for about 10,000 options based on the Black–Sholes-Merton model.
- Built up a portfolio that can achieve maximum average profit. Earned a 42% potential average daily gain.
- Technology: **C++, Matlab**

Financial Management Web System/ TJUT - Web and UI Development Mar. 2013 - May.2013

- Designed and implemented a management system in full-stack, including user interface, backend services, database and unit test cases, to enable more effective and efficient personal financial management.
- Technology: **PHP, HTML, CSS, Javascript, SQL**