

Liang Li

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Summary

9+ years of software development experience. 7+ years' Amazon working experience as software development engineer, who loves computing technology, including areas like distributed computing systems, Artificial Intelligence, etc.

Passionate in solving difficult problems from the reality with my specialty of computing technologies. Interested in learning various newest technologies when exploring different technical solutions, and leveraging them to resolve these challenges.

Work Experience

2020.06 – Now Amazon APM Team

SDE-II, Amazon US

- Led and designed the APM workflow project for vendor cost management; leveraged AWS API gateway, lambda, SQS, dynamoDB, S3 to implement the serverless architecture to manage the vendor cost upload/download workflows.
- Optimized and implemented the migration of COD to Amazon SPACE system. **Finished the project within 1.5 months, which was estimated as 3 months originally.**

2016.06 – 2020.06 Amazon F3 Team

SDE-II, Amazon US

- Led, designed and implemented the F3 tips consolidation project
 - Unified the Fresh, PrimeNow, UFG tips workflow, enabled the tips feature for GC/CC case; reduced 4 duplicated services to 2 services.
 - Increased 3% tip revenue** for Fresh and UFG business, namely **\$2.5 millions for UFG and \$0.7 millions for Fresh**, yearly.
 - Stopped overpayment of tip when charge failed, yearly **saved \$0.6 million** revenue lost for Amazon, as published the tips life cycle event for reconciliation.
 - Backfilled 800 million tip transactions** into the related purchase document, ensured back-compatible and smooth launching.
- Led and designed the PrimeNow pickup project for ordering, including cart, checkout and post-order.
 - Provided detailed technical options and the recommendations with pros and cons listing
 - Created a detailed executable plan for the projects with feature/story/task breakdown, which was executed by the remote away team smoothly.
 - Guided the away team the implementation, led them work efficiently and autonomously.

2013.07 – 2016.06 Amazon Wireless Team

SDE, Amazon CN

- Proposed, designed and implemented EU Wireless Detail Page Performance Improvement Project, **improved the latency 50%+ for P90/P50 in 2015.**
- Worked on Contract Phone System, launched CN Contract Phone in Nov. 2013; launched UK and DE Contract Phone in Oct. 2014.
- Core contributor of the Wireless store projects, including CarrierFCPortal System, the AtGlance feature, PrettyNumber functionality, Wireless Promotions, etc.

Professional and Language Skills

- Familiar with common data structures and algorithms.
- 7+ years' experience in Java programming.
- 3+ years' experience in C programming.
- Familiar with Linux, and Bash shell.
- 1+ years' programming in GPU/CUDA.
- Speaking Languages: English and Chinese.

Project and Research

2011.10 – 2012.03 Parallel Game Tree Search on GPU

Key Developer

- Accomplish the branch calculation and leaf calculation of game tree on GPU, optimize the parallel computing. Effect: the speedup of branch calculation on GPU can reach 35 times and the speedup of leaf calculation can reach 624 times, without other overhead.
- Propose and accomplish a new parallel game tree search algorithm based on GPU, and its optimization. Effect: the speedup of parallel tree search can reach 91.5 times at most, without considering pruning; for pruning, the speedup can be 7.0 times.
- The program of computer game wins the gold medal of Connect6 in the 16th International Computer Olympiad in 2011.

2010.10 – 2011.09 LingCloud Cloud Computing System

Key Developer

- Accomplish the monitor module of LingCloud system; normalize the data format and the applicant interface in this module. With Bridge Pattern, support several open-source monitor systems, such as Ganglia and Nagios. Implement loosely coupled with other parts of the system, and support long-term and stable operation in productive environment.
- Assist developing resource management module, accomplish cluster allocation and other partial functions. Assist accomplishing code refactoring, and opening source under Apache license. For details of LingCloud: www.lingcloud.org

2008.10 – 2009.12 Computer Game Theory

Key Developer

- Write the computer game program of Connect6; accomplish its move generator, shape statistics and dynamic opening book modules. With Genetic Algorithm, optimize the factors of evaluation function, and increase the AI of the game. This program wins the gold medal of Connect6 in 14th International Computer Olympiad in 2009.
- Accomplish the computer game program of Phantom Go. Using Monte-Carlo Algorithm, shield the complexity of the game Go and increase the AI.
- This program achieves the silver medal of Phantom Go in 14th International Computer Olympiad in 2009.

Open-source Projects

- Cloudict, an efficient and powerful game engine for the game Connect6: <https://github.com/lang010/cloudict/>
- ConnectMore, a GUI for the Connect6 game engine Cloudict, based on Python 3: <https://github.com/lang010/ConnectMore/>
- Lingcloud, an IaaS cloud computing platform: <https://code.google.com/p/lingcloud/>
- SimReversi, an efficient, simple game engine for Reversi: <https://github.com/lang010/simReversi/>

Publications

- Liang Li, Hong Liu, Hao Wang, Taoying Liu, Wei Li. "A Node-based Parallel Game Tree Algorithm Using GPUs". IEEE TPDS (Impact Factor: 1.8), 07/2014
- Liang Li, Dixon Tang, Taoying Liu, Wei Li. "An Approach to Accelerate Cross-Matching in Astronomy By Optimizing The Join Operation on Hive". The 33rd ICDCS 2013
- Liang Li, Hong Liu, Hao Wang, Wei Li. "A Node-based Parallel Game Tree Algorithm Using GPUs". IEEE Cluster 2012.
- Liang Li, Hong Huang, Litao Deng. "Dynamic opening-book in computer games". Control and Decision Conference (CCDC), 2011.
- Liang Li, Han Chen, Guixiang Wang. "Camera Calibration Based on Circular Markers". ICCISE, 2009. (All papers above are **EI included**, and **First author**)

Awards and Honors

International

- "Just do it" Award in Amazon APM in 2020
- The 2nd Place Award of the Amazon Wireless Hackday in 2015
- Best Demo Award in Amazon CNTech in 2015
- The 2nd Place of Amazon Wireless Hackathon in 2013
- Gold Medal of Connect6, International Computer Olympiad 2011
- Meritorious Winner, 13%, American Mathematical Contest of Model 2009
- Silver Medal of Connect6, International Computer Olympiad in 2008

Domestic

- First Prize, 2%, Chinese Mathematical Contest of Model, 2008
- Honor Student of Institute of Computing Technology in 2011
- Outstanding graduate of BIT in 2010
- Top Ten Members of BIT in 2009 (10 students in all)
- Outstanding Members of BIT in 2009 and 2008

Education

2010.9 – 2013.7 Institute of Computing Technology, Chinese Academy of Science

M.S. of Computer Software and Theory

- Examination-free, recommended Student for Graduate Education, major in Computer Software and Theory

2006.9 – 2010.7 School of Software, Beijing Institute of Technology

Top 5%, B.S. of Software Engineering

- T-More Scholarship of Beijing Institute of Technology (BIT) in 2009 (6 students in all)
- National Scholarship for Encouragement in 2008
- First Class Fellowship twice, Second Class Fellowship three times