

LILI LIANG

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EDUCATION

Carnegie Mellon University	Mountain View, CA
Master's degree, Master of Science in Software Engineering	08/2024 – now
Northeast Normal University	Changchun, China
Bachelor's degree, B.Eng. in Software Engineering, Overall GPA: 88.16/100	09/2017 – 06/2021

WORK EXPERIENCE

ByteDance (TikTok's parent company)	Shenzhen, China
<i>Backend Software Engineer, Full-Time, TikTok E-commerce Fulfillment Platform</i>	07/2021 – 10/2023
<ul style="list-style-type: none">• Merchant Fulfillment: supported the construction of the multi-end capabilities for merchant fulfillment as a core developer in the team; participated in various MVP and large-scale horizontal projects.• OpenAPI: reviewed the historical architecture, tracked online issues, identified and promptly addressed 16 historical bugs; based on software development principles, took the lead in formulating interface change specifications.• Stability Construction: took responsibility for the construction of business issue troubleshooting tools and success rate dashboards; completed infrastructure projects, including the full-link tool reporting SDK, data cleaning, and full-scenario data dashboard, etc.• Achievement:<ul style="list-style-type: none">◦ <i>Exceed Expectation</i> Performance Promotion (top 1%)◦ Global E-Commerce <i>Spot Bonus</i> Award (Outstanding Job Performance, top 3%)	


PROJECT EXPERIENCE

Fulfillment Decision System and Configuration SDK Project , ByteDance	09/2022 – 11/2022
<i>Aimed at designing a decision system that can encapsulate business decision logic, achieve configurability, and support a gray release mechanism and abnormal rollback.</i>	
<ul style="list-style-type: none">• Rule Engine: focused on designing a rule engine that incorporates rule factors, rule expression strategies, and rule decisions, which is used for supporting the differential handling of business rules and facilitating decision-making.• Rule Configuration: considered the minimal cost of implementing the MVP version, opting to use the lightweight TCC components for rule-based configuration management.• Action Verification Service: designed an action verification service based on the rule engine, which could offer two integration methods, SDK and RPC, preventing single-point issues.• Result:<ul style="list-style-type: none">◦ converged merchant fulfillment business decision-making logic and supported the low-cost integration of new rules in the future.◦ 3 months after being launched, access to SDK QPS: 1.1k, access to RPC QPS: 115 (B-side business).	

RESEARCH

Solving Diversified Top-k Weight Clique Search Problem	07/2020 – 09/2020
<i>Research direction: algorithm solution</i>	
<ul style="list-style-type: none">• Proposed two encoding strategies for solving the diversified top-k weight clique search (DTKWCS) problem and two specific practical applications of DTKWCS.• Conducted experiments to show that our encoding strategies are competitive, allowing to promote the applications of the DTKWCS problem, such as community detection, spectrum sharing, advertising placement, etc.• Published in JCR Q1 journal: <i>Science China Information Sciences</i>.	
Research and Implementation of Community Friend Recommendation System Based on K-Plex	
<i>Thesis Project</i> <i>Technologies: Vue. Js, SpringBoot, Redis, Shiro</i>	12/2020 – 04/2021
<ul style="list-style-type: none">• Designed a heuristic search algorithm strategy for maximal enumeration of K-plex by improving the fast enumeration algorithm for large K-plex proposed by Conte et al.• Conducted experiments to verify the effectiveness of the algorithm.• Achieved the architecture design and system implementation of the community friend recommendation system based on this algorithm model.	

TECHNICAL BLOG

- [CSDN]: output **60+** algorithm and engineering technical blogs, got **570,000+** views.
- [GitHub]  **NENU-Courses** course guide open source project initiator.
- [Personal Blog Site]: Blog website built by myself.
 - Deployed the site in two lines; built CDN based on JsDelivr to optimize resource loading speed; applied site traffic analysis tools; implemented search engine inclusion (SEO).

AWARDS AND HONORS

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| • <i>Exceed Expectation</i> Performance Promotion, ByteDance (top 1%) | 2023 |
| • Global E-Commerce <i>Spot Bonus</i> Award, ByteDance (Outstanding Job Performance, top 3%) | 2022 |
| • First Prize Scholarship, Outstanding Student Award, Practical Innovation Scholarship(top 7%) | 2021 |
| • <i>Innovation Star</i> Award, NorthEast Normal University(top 3%) | 2020 |
| • President Scholarship, Outstanding Student Award (top 5%) | 2020 |
| • First Prize and Team First Prize in the “National University Green Computing Competition” (top 1%) | 2018 |

PUBLICATIONS

- Junping Zhou, Chumin Li, Yupeng Zhou, Mingyang Li, **Lili Liang**, and Jianan Wang, “Solving diversified top-k weight clique search problem”, in *Science China Information Sciences* and *HSI 2020(conjunction with IJCAI 2020)*, [PDF]

SKILLS

Programming Languages: Golang, Java, C/C++, Python, JavaScript, HTML/CSS, SQL(ranked by proficiency)

Tools and Frameworks: Git, \LaTeX , RPC(Thrift), SpringBoot, MyBatis, RocketMQ, Redis, TensorFlow