

Songlin Jiang

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🐦 [HollowM186](#) • [HollowMan6](#) • Last updated on November 2, 2025

As a [doctoral researcher](#), my focus is on improving Reinforcement Learning & Large Language Models (LLMs) training and inference latency on High-Performance Computing (HPC) clusters & edge devices. Besides, I find immense joy in pushing my boundaries by tackling complex issues that have the potential to positively impact the public. My fervor converges with enhancing **computer systems, networks, databases**, and their corresponding **security** aspects, which allows me to have impacts on computing for both the environment (**greener while efficient**) and people (**faster while reliable**). I am also a passionate **free software developer**, I maintain several open-source projects and contribute to many others.

Education

Ph.D. in Computer Science and Technology, *Aalto University* 08/2024 – 07/2028

- Specialization: **Machine Learning Systems & Databases**
- Funding: [Efficient Deep Neural Network Computation with Resource-Constrained Devices \(DNN ReCoDe\)](#)
- Supervisor: [Prof. Mario Di Francesco](#), Thesis Advisor: [Prof. Bo Zhao](#)
- Teaching Assistant: 2025 - now, Cloud Software and Systems D. [CS-E4190](#)
- Teaching Assistant: 2024, Scalable Systems and Data Management D. [CS-E4780](#)

M.Sc. Eng. in SECCLO Erasmus Mundus, *Tech. Uni. of Denmark (DTU)* (11.36/12) 08/2023 – 06/2024

- Specialization: **Reliable Distributed Systems**
- Thesis: [Real-Time GPU Usage Alert Service for Pre-Exascale HPC Clusters](#)
- Supervisor: [Prof. Bernd Dammann](#)

M.Sc. (Tech.) (Honor) in SECCLO Erasmus Mundus, *Aalto University* (5/5) 08/2022 – 07/2024

- Specialization: **Security and Cloud Computing**
- Thesis: [Real-Time GPU Usage Alert Service for Pre-Exascale HPC Clusters](#)
- Supervisor: [Prof. Bo Zhao](#)

No Degree (Exchange Abroad), *University of Leeds* (Pass, no grade due to COVID-19) 01/2020 – 06/2020

- Host: **School of Computer Science**

B.Eng. in Computer Science & Technology (Honor), *Lanzhou University* (91/100) 09/2018 – 06/2022

- Specialization: **Specialized Class for Fundamentals and Theories of Computer Science**
- Thesis: [A Short-Term Wind Speed Multistep-Ahead Hybrid Prediction Model based on ICEEMDAN and Prophet-GRU-NN](#)
- Supervisor: [Prof. Chao Ren](#)

Experience

Reinforcement Learning Infrastructure Engineer, *Fellou* (world's first agentic browser) 08/2025 – 10/2025

- Building infrastructures for Agentic RL training of Vision Language Models (VLMs) on top of **verl**
- **Verl** is **Volcano Engine** & **ByteDance Seed's** Reinforcement Learning framework for LLMs

Reinforcement Learning Algorithm Engineer, *xDAN AI* (Agentic RL training with verl) 04/2025 – 08/2025

- Developing solutions for Agentic LLMs training using reinforcement learning
- Targeting areas include **coding, math, finance, deep researcher**, and **RAG enhancement**

- AI Prompt Engineer, Outlier** (create RLHF datasets for code generation) 01/2025
- Crafting and answering questions related to computer science in order to help train AI models
 - Evaluating and ranking code generated by AI models
- OSPP Summer, OceanBase** (add support for the IVFPQ vector index algorithm) 06/2024 – 10/2024
- Enable more vector indexing capabilities for OceanBase – a multi-cloud **distributed SQL database**
 - OceanBase is developed by Ant Group (Alibaba), supports the peak traffic in Double 11 Shopping Festivals
- Mentor for Google Summer of Code 2024, MIT CSAIL & OpenSUSE** (simultaneously) 05/2024 – 09/2024
- Mentor Chang Min Bark for [Updating the Multi-select Plugin in Blockly and Cross-testing Other Plugins](#)
 - Mentor Jiamin Wang for [Refactor Customize IBus with Modern Interface and Extensibility](#)
- Junior Application Specialist, CSC - IT Center for Science** (master's thesis) 01/2024 – 07/2024
- Implement the **real-time GPU usage alert service** for HPC clusters
 - Deploy **Large Language Models (LLM) inference** service in HPC environment with [vLLM](#)
- Founder, Hollow Software** (company registered and established in Finland, business ID: 3369577-7) 06/2023 – Present
- Freelance for full-stack computer programming tasks
- Developer Relations Engineer, Enclave** (confidential computing, with [Prof. Sebastian Gajek](#)) 06/2023 – 05/2024
- Create technical **documentation**, tutorials and content
 - Manage channel to **interact** with the community and grow the customer base
- Coding Experience 2023 I & II, Igalia** ([Wolvic](#), ex. Mozilla Firefox Reality) 06/2023 – 12/2023
- Develop **VR Browser**, refactor **Android** deprecated methods
 - Address user issues. Implement UI, graphics, browser, and **openXR** related features
 - Contribute to the majority of the features available from [v1.4.2](#) – [v1.6](#)
- HPC Developer Internship, CSC - IT Center for Science** 05/2023 – 08/2023
- Develop the **GPU monitoring service** for HPC clusters (NVIDIA and AMD GPUs, including LUMI)
 - Develop the Documentation GPT chatbot service using [llamaIndex](#), [LangChain](#) and [Redis/Qdrant](#)
 - Make [improvements](#) to the HPC web operating interface project *Open OnDemand* using **Ruby on Rails**
 - LUMI ranked **3rd** around the world and **1st in Europe** at HPC supercomputer [TOP500 list by 06/2023](#)
- CNCF LFX Mentorship, Kubescape** (Kubernetes security platform) 03/2023 – 05/2023
- Add packaging support for various **package managers** in **Linux**, **macOS**, and **Windows**
 - Improve **release CI** by adding **ARM64** binaries building and testing support (**QEMU** and **cross compiling**)
 - Add support for Kubescape auto version bumping in other Kubescape-related repositories
 - Enable Kubescape [GitHub action](#) to support **code review** based on generated [SARIF report](#)
 - A [blog post](#) by **Cloud Native Computing Foundation (CNCF)** that introduces my work
- Rhino-Bird Open-Source Training Program, Tencent** (Kona JDK) 07/2022 – 09/2022
- Investigate keypairs generation for **SM2** with **JDK**, compare **performance** and **security** of algorithms
- Google Summer of Code, MIT CSAIL & Google** ([Blockly](#), web-based visual program editor) 05/2022 – 09/2022
- Create a [plugin](#) to allow selecting, dragging and manipulating **multiple blocks at once** for Google Blockly
 - Resolve the [issue](#) that had troubled the **Google Engineers** for **a decade** (since the Blockly project started)
 - [@mit-app-inventor/blockly-plugin-workspace-multiselect](#) now has an average of **250+** downloads per week
- Summer of Bitcoin, Cryptonarchy Debian** (Bitcoin related Debian packages) 05/2022 – 08/2022

- Add Continuous Integration (CI) by investigating **systemd** support inside Docker with GitHub Actions
- The [chance](#) to get into this internship in 2022: **83/20317**

RL Open Source Fest, *Microsoft Research NYC* (Vowpal Wabbit, ML library) 05/2022 – 08/2022

- Add native CSV parser support for the Vowpal Wabbit project in C++, **100%** Test & Code Coverage
- Manage to make **10x performance improvement** and is comparable to speed of original VW text format

Open Source Internship, *Institute of Software, CAS* (openEuler, Linux distribution) 01/2022 – 07/2022

- **First** to obtain 150 intern credits. Help solve 6 issues, related technologies include **D-Bus**, **Glib**, building Cloud Native **Container** images, **Rust** programming, **Chrome DevTools Protocol**, test case, **RPM** packaging
- One of the achievements [mdbook-pdf](#) now has an average of **500+** downloads per week

Google Summer of Code, *openSUSE* (IBus, input method framework) 06/2021 – 08/2021

- Add customizing themes feature for IBus in desktop environments, improve IBus settings support in GNOME
- A [blog post](#) at **openSUSE News** that introduces my work
- **GNOME extension** [Customize IBus](#) now has an average of **300+** downloads per week

OSPP Summer, *openEuler* (Developed an ISO writer using QT and C++) 07/2021 – 09/2021

OSPP Summer, *Emacs Application Framework* (EAF, work with [Yong Wang](#)) 07/2020 – 09/2020

- Add new features and address all kinds of issues using **Emacs Lisp**, **Python**, **JavaScript**, **SQLite**
- A [blog post](#) (in Chinese) about my work posted by Yong Wang (ManateeLazyCat)

Summer of Code, *Alibaba* ([Arthas](#), Alibaba's [most starred](#) project on GitHub, Java diagnostic tool) 07/2020 – 08/2020

- Create Chinese and English interactive online tutorials for Arthas using **Katacoda** and **Vue.js**
- **Coding part highlight**: Support directly searching Class Loader by name instead of Hash Code in Java
- A [Wechat post](#) (in Chinese) about my work posted by [hengyunabc](#)

Open Source Repositories

1.6k GitHub followers. 129.8k GitHub stars across all of the following selected repositories:

- | | | | |
|-----|---|--|------|
| 1. | deepspeedai/DeepSpeed | ★40.6k Training Framework | 2025 |
| | Rank #41 among all contributors with 12 commits, 119 lines of additions and 76 lines of deletions | | |
| 2. | zhuzilin/ring-flash-attention | ★904 Ring Attention | 2025 |
| | Rank #3 among all contributors with 4 commits, 124 lines of additions and 23 lines of deletions | | |
| 3. | volcengine/verl | ★15k RLHF Framework | 2025 |
| | Rank #7 among all contributors with 45 commits, 1714 lines of additions and 1342 lines of deletions | | |
| 4. | OpenRLHF/OpenRLHF | ★8.3k RLHF Framework | 2024 |
| | Rank #5 among all contributors with 33 commits, 531 lines of additions and 199 lines of deletions | | |
| 5. | kubescape/kubescape | ★11k Kubernetes Security Platform | 2023 |
| | Rank #9 among all contributors with 40 commits, 745 lines of additions and 555 lines of deletions | | |
| 6. | Igalia/wolvic | ★911 Immersive VR Browser | 2023 |
| 7. | VowpalWabbit/vowpal_wabbit | ★8.6k Machine Learning System | 2022 |
| | Rank #59 among all contributors with 8 commits, 0 lines of additions and 0 lines of deletions | | |
| 8. | rust-headless-chrome/rust-headless-chrome | ★2.8k Chrome DevTools Protocol in Rust | 2022 |
| | Rank #12 among all contributors with 7 commits, 87 lines of additions and 12 lines of deletions | | |
| 9. | ThibaultJanBeyer/DragSelect | ★765 Multi-Select UI Library | 2022 |
| | Rank #7 among all contributors with 3 commits, 213 lines of additions and 23 lines of deletions | | |
| 10. | debian-cryptoanarchy/cryptoanarchy-deb-repo-builder | ★143 Bitcoin Packages for Debian | 2022 |
| | Rank #3 among all contributors with 7 commits, 245 lines of additions and 22 lines of deletions | | |

11.	HollowMan6/mdbook-pdf	★193	MdBBook backend for PDF Generation	2022
	Rank #1 among all contributors with 61 commits, 3515 lines of additions and 742 lines of deletions			
12.	mit-cml/workspace-multiselect	★14	Blockly Multi-Select Plugin	2022
	Rank #1 among all contributors with 50 commits, 18358 lines of additions and 25270 lines of deletions			
13.	openSUSE/Customize-IBus	★78	Full Customization of IBus UI	2021
	Rank #1 among all contributors with 371 commits, 53904 lines of additions and 40932 lines of deletions			
14.	HollowMan6/Wechat-Timed-Message	★23	GitHub action for WeChat Message	2021
	Rank #1 among all contributors with 99 commits, 4139 lines of additions and 1718 lines of deletions			
15.	openSUSE/IBus-Theme-Hub	★32	IBus Themes CSS Hub	2021
	Rank #1 among all contributors with 21 commits, 3190 lines of additions and 442 lines of deletions			
16.	openSUSE/IBus-Theme-Tools	★22	IBus Theme Generator	2021
	Rank #1 among all contributors with 104 commits, 8558 lines of additions and 4654 lines of deletions			
17.	alibaba/arthas	★36.8k	Java Diagnostic Tool	2020
	Rank #2 among all contributors with 80 commits, 25191 lines of additions and 1543 lines of deletions			
18.	emacs-eaf/emacs-application-framework	★3.4k	Emacs Application Framework	2020
	Rank #5 among all contributors with 49 commits, 3482 lines of additions and 1033 lines of deletions			
19.	HollowMan6/TinyML-ESP32	★180	TinyML Programs for ESP32	2020
	Rank #1 among all contributors with 11 commits, 78393 lines of additions and 19530 lines of deletions			
20.	HollowMan6/SRMD-Pytorch	★26	Super Resolution Model	2020
	Rank #1 among all contributors with 23 commits, 21397 lines of additions and 1399 lines of deletions			

Publications [Google Scholar, 213 citations with h-index of 1]

2025				
1.	OpenRLHF: An Easy-to-use, Scalable and High-performance RLHF Framework Jian Hu, Xibin Wu, Wei Shen, Jason Klein Liu, Zilin Zhu, Weixun Wang, Songlin Jiang , Haoran Wang, Hao Chen, Bin Chen, Weikai Fang, Xianyu, Yu Cao, Haotian Xu, and Yiming Liu Conference on Empirical Methods in Natural Language Processing (EMNLP) System Demonstrations 2025			
2.	QUASAR: Quantum Assembly Code Generation Using Tool-Augmented LLMs via Agentic RL Cong Yu, Valter Uotila, Shilong Deng, Qingyuan Wu, Tuo Shi, Songlin Jiang , Lei You, and Bo Zhao arXiv preprint arXiv:2510.00967 2025			
2019				
3.	Voting System Based on Wechat Pay Songlin Jiang Computer Engineering & Software 2019			

Invited Talks

Content, Link to the talk, and Date:

1.	Fully Automated Release and Code Review with CI/CD , Open Source Summit Europe	09/2024
2.	Virtual Network Systems among Containers , Aalto University Secure Systems Demo Day	06/2023
3.	Multi-Select Plugin , Google Blockly Summit	06/2023
4.	Native CSV Parser , Microsoft Research NYC Seminar (RLOSfest)	08/2022
5.	Summary of my Open Source Internship , openEuler Excellent Intern Seminar	08/2022
6.	Update Notification Program in Python , openEuler University Developer Competition	05/2021
7.	Summary of my Contribution to Arthas , Alibaba Summer of Code Presentation	08/2020

Certificates & Honors & Awards

Travel Funding for Google Blockly Summit	2024 – 2025
Aalto University School of Science Dean's Incentive Scholarship	2023 – 2024
SECCLO Erasmus Mundus Scholarship	2022 – 2024
<small>(26/767) Full-ride scholarship, includes full tuition fee waiver, covers all living costs and travel expenses</small>	
Delegate of OpenSUSE Project for Google Summer of Code 2024 Mentor Summit	2024
<small>Joint funded by Google and openSUSE Travel Support Program</small>	
Travel Fund for The Linux Foundation Open Source Summit Europe 2024	2024
<small>To speak at the LFX Mentorship Showcase</small>	
Certified Kubernetes Security Specialist (CKS), CNCF	2024
Black Hat Europe 2023 Student Scholarship	2023
Cloud Captains in Linux Foundation Training (LiFT) Scholarship (China)	2022
Huawei Cloud Certified Developer Associate in Internet of Things (HCCDA - IoT)	2022
Certified Kubernetes Administrator (CKA), CNCF	2022
Recognized Tencent Open Source Contributor	2022
<small>Only 30+ were issued globally by the end of 2022</small>	
Intern of Excellence Award at Tencent	2022
<small>Only 2/4000+ received all the 3 kinds of intern awards</small>	
Intern of Excellence & Star of Open Source Award in openEuler Open Source Internship	2022
<small>Only 3/150+ interns received both awards</small>	
China Ministry of Education & Huawei "Intelligent Base" Future Star Scholarship	2021
Software Design Engineer, China Qualification of Computer and Software Professional	2021
Academic Aces in Linux Foundation Training (LiFT) Scholarship (China)	2020
CATTI Level 3 (English & Chinese) Translator	2020
Best Paper Award in Lanzhou University Summer Social Practice Report	2020
<small>Paper: Research on the Functionality and Optimization of Urban Communities in China During COVID-19 in 2020</small>	
Award in openEuler University Developer Competition	2020
<small>(24/547 Teams) I participated alone, ranked 1st in final defense</small>	
China Scholarship Council Outstanding Undergraduate International Exchange Scholarship	2019
<small>(Only 1) Full covering of visa fees, traveling fees, and living costs, plus the host university exchange program tuition fee waiver agreement</small>	
Google InnoCamp Hangzhou BoostMakers – TensorFlow Boost	2019
<small>Only 40+/2000+ got this certificate</small>	
Excellent Project Award in Lanzhou University Innovation and Entrepreneurship Plan	2019
<small>Only 122/1268 got this award</small>	
Nine Lanzhou University Undergraduate Scholarships	2018 – 2022
<small>3 x scholarship for academic excellence, 5 x scholarship for innovation and entrepreneurship projects, 2020 scholarship for IELTS test fee</small>	

Professional Activities

openSUSE Member

2021 – Present

Continued and substantial contributions to the openSUSE project. With voting rights and the ability to run for the openSUSE board

Reviewing.....

- International Conference on Learning Representations (**ICLR**) 2026
- Medical Imaging with Deep Learning (**MIDL**) 2026
- Annual Conference on Neural Information Processing Systems (**NeurIPS**) 2025
- Neural Information Processing Systems (**NeurIPS**) 2025 Datasets & Benchmarks Track
- International Conference on Learning Representations (**ICLR**) 2025
- International Joint Conference on Artificial Intelligence (**IJCAI**) 2025 Survey Track
- **IJCAI** 2025 Special Track on AI for Social Good
- International Joint Conference on Neural Networks (**IJCNN**) 2025
- Medical Imaging with Deep Learning (**MIDL**) 2025
- Latinx in AI Workshop at **NeurIPS** 2025
- International Conference on Green Artificial Intelligence and Industrial Applications (**GreenAI** 2025)
- Latinx in AI Workshop at **NeurIPS** 2024
- ACM Special Interest Group on Management of Data (**SIGMOD**) 2023 Availability & Reproducibility

Skills

Programming C++, Go, Rust, Python, C, Java, Kotlin, JavaScript, SQL, HTML, Bash, PHP, Ruby ...

Frameworks [Kubernetes](#), [TensorFlow](#), [Docker](#), [PyTorch](#), Pandas, GitHub Actions, Flutter, React, QT ...

DataBases PostgreSQL, MongoDB, Redis, InfluxDB, TimescaleDB, HBase, Hive, Hadoop, Spark ...

Research Projects Before Doctoral Research

- **Virtual Network Systems among Containers** 2023
Prof. Tuomas Aura, *Aalto University*
- **Hybrid Model for Stock Price Prediction Based on Time Series and Neural Network** 2021
Dr. Weiwei Liu, *Lanzhou University*
- **Renaissance – Use AI to Repair Old Photos** 2020
Prof. Chao Ren, *Lanzhou University*
- **Skin Cancer detection Method Based on CNN** 2020
Dr. Xin Lv, *Lanzhou University*
- **Renaissance – AI + Dunhuang Art** 2019
Prof. Qingguo Zhou, *Lanzhou University*
- **Self-balancing Bike** 2019
Prof. Hongxin Li, *Lanzhou University*

Software Copyrights

- Hollow Software for Smartly Memorizing Words [CN 2020SR0839716](#)
- Hollow Software System for Sport Center Management [CN 2020SR0839709](#)
- Hollow Software for Jack Compiler [CN 2020SR0839702](#)
- Hollow Software for Picture & Video Information Hiding En-Decryption [CN 2020SR0079950](#)
- Face Recognition Access Control System [CN 2019SR1388115](#)