

# Songlin Jiang

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🐦 [HollowM186](#) • [HollowMan6](#) • Last updated on November 11, 2023

My academic fervor converges with enhancing **computer systems, networks, databases**, and their corresponding **security** aspects, which allows my research to have impacts on computing for both the environment (**greener while efficient**) and people (**faster while reliable**). Additionally, I am a passionate **free software advocate**. During my leisure time, I maintain several open-source projects and contribute to many others.

## Education

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**M.Sc. in SECCLO Erasmus Mundus**, *Aalto University* (4.93/5) 2022 – 2024

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

**M.Sc. in SECCLO Erasmus Mundus**, *Technical University of Denmark (DTU)* 2023 – 2024

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

**Exchange**, *University of Leeds* Spring 2020

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

- Thesis: *A Short-Term Wind Speed Multistep-Ahead Hybrid Prediction Model based on ICEEMDAN and Prophet-GRU-NN*
- Supervisor: [Prof. Chao Ren](#)

## Experience

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**HPC Develop Thesis Worker**, *CSC - IT Center for Science* 01/2024 – 07/2024

- Work on my master's thesis for SECCLO Erasmus Mundus program
- Implement the **real-time GPU usage alert service** for HPC clusters
- Investigate the **continuous aggregates** feature of TimescaleDB
- LUMI ranked **3rd** around the world and **1st in Europe** at HPC supercomputer TOP500 list by 2023

**Developer Relations Engineer**, *Enclave* (confidential computing, with [Prof. Sebastian Gajek](#)) 06/2023 – Present

- Create technical **documentation**, tutorials and content
- Manage channel to **interact** with the community and grow the customer base

**Coding Experience**, *Igalia* ([Wolvic](#), ex. Mozilla Firefox Reality) 06/2023 – Present

- Develop **VR Browser**, refactor **Android** deprecated methods
- Address user issues. Implement UI, browser, and **openXR** related features
- Contribute to the majority of the features available from [v1.4.2](#), [v1.5](#), and [v1.5.1](#)

**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](#)
- Make [improvements](#) to the HPC web operating interface project *Open OnDemand* using **Ruby on Rails**

**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 **50+** downloads per week

**Summer of Bitcoin**, *Cryptoanarchy 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 Intern**, *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 **100+** 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 **100+** 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*, 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](#)

## Certificates & Honors & Awards

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**SECCLO Erasmus Mundus Scholarship** 2022 – 2024

(26/767) Full-ride scholarship, includes full tuition fee waiver, covers all living costs and travel expenses

**Aalto University School of Science Dean's Incentive Scholarship** 2023

Cloud Captains in <b>Linux Foundation</b> Training (LiFT) Scholarship (China)	2022
<b>Huawei</b> Cloud Certified Developer Associate in Internet of Things (HCCDA - IoT)	2022
Certified Kubernetes Administrator (CKA), CNCF	2022
Recognized <b>Tencent</b> Open Source Contributor	2022
Only 30+ were issued globally by the end of 2022	
Intern of Excellence Award at <b>Tencent</b>	2022
Only 2/4000+ received all the 3 kinds of intern awards	
Intern of Excellence & Star of Open Source Award in <b>openEuler</b> Open Source Internship	2022
Only 3/150+ interns received both awards	
<b>China Ministry of Education &amp; Huawei</b> "Intelligent Base" Future Star Scholarship	2021
Software Design Engineer, <b>China Qualification of Computer and Software Professional</b>	2021
Excellent Student Award in <b>Baidu</b> Software Engineering Training Camp	2021
Academic Aces in <b>Linux Foundation</b> Training (LiFT) Scholarship (China)	2020
<b>CATTI</b> Level 3 (English & Chinese) Translator	2020
<b>Best Paper Award</b> in <b>Lanzhou University</b> Summer Social Practice Report	2020
Paper: Research on the Functionality and Optimization of Urban Communities in China During COVID-19 in 2020	
Award in <b>openEuler</b> University Developer Competition	2020
(24/547 Teams) I participated alone, ranked 1st in final defense	
<b>Star of Innovation Award</b> in <b>Alibaba T-head</b> OCC Developers IoT Innovation Competition	2020
My proposal ranked 1st in voting (850 votes, 300 more than the 2nd one)	
<b>China Scholarship Council</b> Outstanding Undergraduate International Exchange Scholarship	2019
(Only 1) Full covering of visa fees, traveling fees, and living costs, plus the host university exchange program tuition fee waiver agreement	
<b>Google InnoCamp Hangzhou BoostMakers</b> – TensorFlow Boost	2019
Only 40+/2000+ got this certificate	
<b>Excellent Project Award</b> in <b>Lanzhou University</b> Innovation and Entrepreneurship Plan	2019
Only 122/1268 got this award	
Nine <b>Lanzhou University</b> undergraduate scholarships	2018 – 2022
3 x scholarship for academic excellence, 5 x scholarship for innovation and entrepreneurship projects, 2020 scholarship for IELTS test fee	

## Open Source Repositories

1.5k+ GitHub followers. 55.6k+ GitHub stars across all of the following selected repositories:

1. <a href="#">kubescape/kubescape</a>	★9.1k <i>Kubernetes Security Platform</i>	2023
Rank #9 among all contributors with 40 commits, 745 lines of additions and 555 lines of deletions		
2. <a href="#">lgalia/wolvic</a>	★636 <i>Immersive VR Browser</i>	2023
Rank #7 among all contributors with 117 commits, 8008 lines of additions and 3712 lines of deletions		
3. <a href="#">VowpalWabbit/vowpal_wabbit</a>	★8.3k <i>Machine Learning System</i>	2022
Rank #77 among all contributors with 3 commits, 1611 lines of additions and 83 lines of deletions		
4. <a href="#">ThibaultJanBeyer/DragSelect</a>	★607 <i>Multi-Select UI Library</i>	2022
Rank #6 among all contributors with 3 commits, 213 lines of additions and 23 lines of deletions		
5. <a href="#">debian-cryptoanarchy/cryptoanarchy-deb-repo-builder</a>	★138 <i>Bitcoin Packages for Debian</i>	2022
Rank #4 among all contributors with 7 commits, 245 lines of additions and 22 lines of deletions		

6.	<a href="#">HollowMan6/mdbook-pdf</a>	★106	<i>MdBook backend for PDF Generation</i>	2022
	Rank #1 among all contributors with 35 commits, 3152 lines of additions and 527 lines of deletions			
7.	<a href="#">mit-cml/workspace-multiselect</a>	★5	<i>Blockly Multi-Select Plugin</i>	2022
	Rank #1 among all contributors with 18 commits, 11846 lines of additions and 20978 lines of deletions			
8.	<a href="#">openSUSE/Customize-IBus</a>	★47	<i>Full Customization of IBus UI</i>	2021
	Rank #1 among all contributors with 354 commits, 42984 lines of additions and 30128 lines of deletions			
9.	<a href="#">HollowMan6/Wechat-Timed-Message</a>	★22	<i>GitHub action for WeChat Message</i>	2021
	Rank #1 among all contributors with 99 commits, 4139 lines of additions and 1718 lines of deletions			
10.	<a href="#">openSUSE/IBus-Theme-Hub</a>	★19	<i>IBus Themes CSS Hub</i>	2021
	Rank #1 among all contributors with 21 commits, 3190 lines of additions and 442 lines of deletions			
11.	<a href="#">openSUSE/IBus-Theme-Tools</a>	★13	<i>IBus Theme Generator</i>	2021
	Rank #1 among all contributors with 104 commits, 8558 lines of additions and 4654 lines of deletions			
12.	<a href="#">alibaba/arthas</a>	★33.7k	<i>Java Diagnostic Tool</i>	2020
	Rank #2 among all contributors with 80 commits, 25191 lines of additions and 1543 lines of deletions			
13.	<a href="#">emacs-eaf/emacs-application-framework</a>	★2.8k	<i>Emacs Application Framework</i>	2020
	Rank #5 among all contributors with 49 commits, 3482 lines of additions and 1033 lines of deletions			
14.	<a href="#">HollowMan6/TinyML-ESP32</a>	★106	<i>TinyML Programs for ESP32</i>	2020
	Rank #1 among all contributors with 11 commits, 78393 lines of additions and 19530 lines of deletions			
15.	<a href="#">HollowMan6/SRMD-Pytorch</a>	★20	<i>Super Resolution Model</i>	2020
	Rank #1 among all contributors with 23 commits, 21397 lines of additions and 1399 lines of deletions			

## Invited Talks

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Content, Link to the talk, and Date:

1.	<a href="#">Virtual Network Systems among Containers</a> , Aalto University Secure Systems Demo Day	06/2023
2.	<a href="#">Multi-Select Plugin</a> , Google Blockly Summit	06/2023
3.	<a href="#">Native CSV Parser</a> , Microsoft Research NYC Seminar (RLOSfest)	08/2022
4.	<a href="#">Summary of my Open Source Internship</a> , openEuler Excellent Intern Seminar	08/2022
5.	<a href="#">Update Notification Program in Python</a> , openEuler University Developer Competition	05/2021
6.	<a href="#">Summary of my Contribution to Arthas</a> , Alibaba Summer of Code Presentation	08/2020

## Professional Activities

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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.....

- ACM SIGMOD 2023 Availability & Reproducibility

## Research Projects

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○	<b>Virtual Network Systems among Containers</b>	2023
	Prof. Tuomas Aura, <i>Aalto University</i>	
○	<b>Hybrid Model for Stock Price Prediction Based on Time Series and Neural Network</b>	2021
	Dr. Weiwei Liu, <i>Lanzhou University</i>	
○	<b>Renaissance – Use AI to Repair Old Photos</b>	2020
	Prof. Chao Ren, <i>Lanzhou University</i>	

- **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

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- 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

## Publications [Google Scholar, 2 citations with h-index of 1]

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- 2019.....
1. *Voting System Based on Wechat Pay*  
Songlin Jiang  
Computer Engineering & Software 2019

## Skills

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**Programming** C++, Go, Rust, Python, C, Java, Kotlin, JavaScript, SQL, HTML, Bash, PHP, Ruby ...  
**Frameworks** Docker, TensorFlow, PyTorch, Pandas, Numpy, GitHub Actions, Flutter, React, QT ...  
**DataBases** PostgreSQL, MongoDB, Redis, InfluxDB, TimescaleDB, HBase, Hive, Hadoop, Spark ...

## Courses

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Some top-quality courses I've taken:

- **Program Analysis**, DTU Fall 2023
- **Program Verification**, DTU Fall 2023
- **Programming Parallel Computers**, Aalto University Spring 2023
- **Platform Security**, Aalto University Spring 2023
- **Cloud Software and Systems**, Aalto University Fall 2022
- **Multimedia Services in Internet**, Aalto University Fall 2022
- **Designing and Building Scalable Web Applications**, Aalto University Fall 2022
- **Network Security**, Aalto University Fall 2022
- **Formal Languages and Finite Automata**, University of Leeds Spring 2020