Songlin Jiang

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🐦 HollowM186 • ⌗ HollowMan6 • Last updated on November 10, 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

M.Sc. in SECCLO Erasmus Mundus, *Aalto University* (4.93/5)   2022 – 2024
○ Specialization: **Security and Cloud Computing**

M.Sc. in SECCLO Erasmus Mundus, *Technical University of Denmark (DTU)*   2023 – 2024
○ Specialization: **Reliable Distributed Systems**

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

Developer Relations Engineer, *Enclaive* (confidential computing, with Prof. Sebastian Gajek)   06/2023 – Present
○ Technical **documentation**, tutorials and content creation
○ Channel management to **interact** with the community and grow the base

Coding Experience, *Igalia* (Wolvic, ex. Mozilla Firefox Reality)   06/2023 – Present
○ **VR Browser** Development, **Android** deprecated methods refactoring
○ Address user issues, UI, browser, and **openXR** related feature implementation
○ Contributed 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* in **Ruby on Rails**
○ LUMI ranked **3rd** around the world and **1st in Europe** at HPC supercomputer TOP500 list by 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 (by **QEMU** and **cross compiling**), and also support Kubescape auto version bumping for 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
○ Generate keypairs for **SM2** by various algorithms with **JDK** library, compare **performance** and **security**

Google Summer of Code, *MIT CSAIL & Google* (Blockly, web-based visual program editor) 05/2022 – 09/2022
○ Allow selecting, dragging and manipulating multiple blocks for Google Blockly by creating a **plugin**
○ 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 average **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
○ Chances 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
○ Finally managed to make **10x performance improvement** and is comparable to 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 achievement mdbook-pdf now has average **100+** downloads per week

Google Summer of Code, *openSUSE* (IBus, input method framework) 06/2021 – 08/2021
○ Add custom themes feature for IME framework IBus, improve IBus settings support in GNOME
○ A blog post at **openSUSE News** that introduces my work
○ **GNOME extension** Customize IBus now has average **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
○ Address issues using **Emacs Lisp**, **Python**, **JavaScript**, **SQLite** to add new features for Emacs Application
○ 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
○ Write Chinese and English online tutorials for Arthas using **Katacoda** and **Vue.js**
○ **Highlight**: Support directly searching Class Loader by name instead of Hash Code using Java
○ A Wechat post (in Chinese) about my work posted by hengyunabc

Certificates & Honors & Awards

SECCLO **Erasmus Mundus** Scholarship (26/767) Full-ride scholarship, including tuition and living costs	2022 – 2024
Aalto University School of Science Dean's Incentive 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 Only 30+ were issued globally by the end of 2022	2022
Intern of Excellence Award at **Tencent** 2/4000+ to receive all the 3 kinds of intern awards	2022
Intern of Excellence & Star of Open Source Award in **openEuler** Open Source Internship Only 3/150+ interns received both awards	2022
China Ministry of Education & Huawei "Intelligent Base" Future Star Scholarship	2021
Software Design Engineer, China **Qualification of Computer and Software Professional**	2021

Excellent Student Award in **Baidu** Software Engineering Training Camp	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

Paper: Research on the Functionality and Optimization of Urban Communities in China During COVID-19 in 2020

Award in **openEuler** University Developer Competition	2020

(24/547 Teams) (I participate only by myself) Ranked 1st in final defense

Star of Innovation Award in **Alibaba T-head** OCC Developers IoT Innovation Competition	2020

My proposal ranked 1st in voting (850 votes, 300 more than the 2nd one)

China Scholarship Council 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

Google InnoCamp Hangzhou BoostMakers – TensorFlow Boost	2019

40+/2000+

Excellent Project Award in **Lanzhou University** Innovation and Entrepreneurship Plan	2019

Project: Renaissance – AI + Dunhuang Art, supervised by Prof. Qingguo Zhou

Nine **Lanzhou University** undergraduate scholarships	2018 − 2022

3 × scholarship for academic excellence, 5 × 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. kubescape/kubescape ★9.1k *Kubernetes Security Platform* 2023
   Rank #9 among all contributors with 40 commits, 745 lines of additions and 555 lines of deletions
2. Igalia/wolvic ★633 *Immersive VR Browser* 2023
   Rank #7 among all contributors with 117 commits, 8008 lines of additions and 3712 lines of deletions
3. VowpalWabbit/vowpal_wabbit ★8.3k *Machine Learning System* 2022
   Rank #77 among all contributors with 3 commits, 1611 lines of additions and 83 lines of deletions
4. ThibaultJanBeyer/DragSelect ★606 *DragSelect JavaScript UI Library* 2022
   Rank #6 among all contributors with 3 commits, 213 lines of additions and 23 lines of deletions
5. debian-cryptoanarchy/cryptoanarchy-deb-repo-builder ★137 *Bitcoin Packages for Debian* 2022
   Rank #4 among all contributors with 7 commits, 245 lines of additions and 22 lines of deletions
6. HollowMan6/mdbook-pdf ★105 *MdBook backend for PDF Generation* 2022
   Rank #1 among all contributors with 35 commits, 3152 lines of additions and 527 lines of deletions
7. mit-cml/workspace-multiselect ★5 *Blockly Multi-Select Plugin* 2022
   Rank #1 among all contributors with 18 commits, 11846 lines of additions and 20978 lines of deletions
8. openSUSE/Customize-IBus ★47 *Full Customization of IBus UI* 2021
   Rank #1 among all contributors with 354 commits, 42984 lines of additions and 30128 lines of deletions
9. HollowMan6/Wechat-Timed-Message ★22 *GitHub action for WeChat Message* 2021
   Rank #1 among all contributors with 99 commits, 4139 lines of additions and 1718 lines of deletions
10. openSUSE/IBus-Theme-Hub ★19 *IBus Themes CSS* 2021
    Rank #1 among all contributors with 21 commits, 3190 lines of additions and 442 lines of deletions
11. openSUSE/IBus-Theme-Tools ★13 *IBus Theme Generator* 2021
    Rank #1 among all contributors with 104 commits, 8558 lines of additions and 4654 lines of deletions
12. alibaba/arthas ★33.7k *Java Diagnostic Tool* 2020
    Rank #2 among all contributors with 80 commits, 25191 lines of additions and 1543 lines of deletions
13. emacs-eaf/emacs-application-framework ★2.8k *Emacs Application Framework* 2020
    Rank #5 among all contributors with 49 commits, 3482 lines of additions and 1033 lines of deletions
14. HollowMan6/TinyML-ESP32 ★106 *TinyML Programs for ESP32* 2020
    Rank #1 among all contributors with 11 commits, 78393 lines of additions and 19530 lines of deletions
15. HollowMan6/SRMD-Pytorch ★20 *Super Resolution Model* 2020
    Rank #1 among all contributors with 23 commits, 21397 lines of additions and 1399 lines of deletions

Invited Talks

Content, Link to the talk, and Date:
1. *Virtual Network Systems among Containers*, Aalto University Secure Systems Demo Day   06/2023
2. *Multi-Select Plugin*, Google Blockly Summit   06/2023
3. *Native CSV Parser*, Microsoft Research NYC Seminar (RLOSFest)   08/2022
4. *Summary of my Open Source Internship*, openEuler Excellent Intern Seminar   08/2022
5. *Update Notification Program in Python*, openEuler University Developer Competition   05/2021
6. *Summary of my Contribution to Arthas*, Alibaba Summer of Code Presentation   08/2020

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

Software Copyright

- 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]

2019 ....

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

Skills

Programming Go, Rust, Java, Kotlin, JavaScript, C++, C, Python, HTML, Shell, SQL ...
Frameworks GitHub Actions, Flutter, React, Viper, Selenium, TensorFlow, scikit-learn ...

Courses

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