

# JINQI LU

Ph.D. Student

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Department of Computer Science, Whiting School of Engineering, Johns Hopkins University

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## RESEARCH INTERESTS

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I have a deep passion for a wide range of cutting-edge computer technologies, including High Performance Networks, Databases, Cloud Computing, Applied Machine Learning, and Data Mining. I'm motivated to explore deeper into new concepts, along with their practical applications in real-world scenarios. I'm also eager to get involved in interdisciplinary areas such as bioinformatics, where I can collaborate with researchers from various backgrounds to push the boundary of the science.

## EDUCATION

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<b>Ph.D. in Computer Science</b> Johns Hopkins University	Expected May 2029 Baltimore, MD, USA
<b>M.Sc. in Computer Science</b> Boston University	Jan 2024 Boston, MA, USA
<b>B.A. in Computer Science</b> Boston University	May 2022 Boston, MA, USA

## PUBLICATIONS

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- Xue J, Chen H, **Lu J**, Zhang H, Geng J, He P and Lu X (2023), **Identification of immunity-related lncRNAs and construction of a ceRNA network of potential prognostic biomarkers in acutemyeloid leukemia**. *Front. Genet.* 14:1203345. doi: 10.3389/fgene.2023.1203345
- Aneesh Raman, Andy Huynh, **Jinqi Lu**, and Manos Athanassoulis. 2024. **Benchmarking Learned and LSM Indexes for Data Sortedness**. In Proceedings of the Tenth International Workshop on Testing Database Systems (DBTest '24). Association for Computing Machinery, New York, NY, USA, 16–22. <https://doi.org/10.1145/3662165.3662764>
- Chen H, **Lu J**, Wang Z, Wu S, Zhang S, Geng J, Hou C, He P, Lu X. **Unlocking reproducible transcriptomic signatures for acute myeloid leukaemia: Integration, classification and drug repurposing**. *J Cell Mol Med.* 2024 Sep;28(17):e70085. doi: 10.1111/jcmm.70085. PMID: 39267259; PMCID: PMC11392829.
- Chen H, Zhang S, Zhang L, Geng J, **Lu J**, Hou C, He P, Lu X. **Multi role ChatGPT framework for transforming medical data analysis**. *Sci Rep.* 2024 Jun 17;14(1):13930. doi: 10.1038/s41598-024-64585-5. PMID: 38886470; PMCID: PMC11183233.

## RESEARCH EXPERIENCE

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**Johns Hopkins University Department of Computer Science | Baltimore, MD, USA**

Aug 2024 – Present

*Graduate Research Assistant*

*Advisor: Professor Soudeh Ghorbani*

- Participate in various research tasks at HopNets Lab.
- Work on high-performance network technology for AI training cluster. This include RDMA, packets deflection & reordering, collective operations, and FPGA implementations.
- Also write program for Intel Tofino programmable switch and manage other lab servers.

**Boston University Department of Computer Science** | Boston, MA, USA

Aug 2024 – Present

*Graduate Research Assistant - Remote*

*Advisor: Professor Manos Athanassoulis*

- Continue to collaborate remotely on the relational memory project which involves RISC-V and FPGA development.

**Boston University Department of Computer Science** | Boston, MA, USA

Feb 2023 – Aug 2024

*Graduate Research Assistant*

*Advisor: Professor Manos Athanassoulis*

- Participated in research tasks and are responsible for updating the lab's (MiDAS and DiSC) websites.
- In the relational memory project, responsible for deploying softcore & Linux on FPGA boards, customizing RISC-V instructions, and running experiments.
- Managed server and system to accommodate specialized devices like Zoned or Computational SSDs.

**Beijing Institute of Genomics Chinese Academy of Sciences** | Haidian, Beijing, China

Jun 2023 – Jan 2024

*Research Assistant Intern*

- Worked remotely and on-site (during vacation).
- Participated in research projects. Constructed dynamic websites using Java, built databases using MySQL, and processed data using Python.

## PROFESSIONAL EXPERIENCE

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**Beijing JingYouQiKang Science & Technology Co., Ltd** | Haidian, Beijing, China

Jun 2020 – Sep 2022

*Software & Server Cluster Engineer Part-time*

- Configured & deployed physical servers, virtual machines, hypervisors, network equipment, and disk arrays.
- Developed software and scripts to automate workflow for different projects.

**Beijing JingYouQiKang Science & Technology Co., Ltd** | Haidian, Beijing, China

Jun 2018 - Present

*Database & Network Administrator Part-time*

- Design the 40G LAN infrastructure and configure switches & access points, manage RDMA/RoCE policies.
- Design database structure, setup and maintain MariaDB database for various projects.

## LEADERSHIP & TEACHING EXPERIENCE

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**Boston University Department of Computer Science** | Boston, MA, USA

Jan 2022 – May 2022

*Teaching Assistant (CS 105 Intro to Database and Data Mining)*

- Primarily responsible for teaching-related tasks.
- Conducting lab sessions and holding office hours, overseeing quizzes and exams, setting up and assessing homework, and addressing questions.

**Boston University Department of Computer Science** | Boston, MA, USA

Jan 2023 – May 2023

*Teaching Assistant (CS 460 Database Systems)*

- Primarily responsible for grading-related tasks.
- Answering questions, creating rubrics, grading assignments, exams, and presentations.

**Boston University Department of Computer Science** | Boston, MA, USA

Sep 2023 – Dec 2023

*Teaching Assistant (CS 392 Programming in C#)*

- Primarily responsible for all non-teaching tasks (include grading).
- Creating rubrics, grading assignments, exams, and presentations.
- Answering questions on Piazza and managing submissions on Blackboard.

## FEATURED PROJECTS

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### Genetic Analysis Research Pipeline

Beijing JingYouQiKang Science & Technology Co., Ltd

Jun 2020 – Present  
Haidian, Beijing, China

- Analysis of differences in gene expressions of different species when applying different treatments. This project analyzes SRA data (~2000TB) from the NCBI database and processes it with our own analysis pipeline.
- Estimated resource requirements, selected & installed server platform, and configured network equipment.
- Developed Python program bundle to automate the entire analysis process, task includes data downloading, integrity checking, firewall circumventing, file analysis, result collection & validation, and source data archiving.
- Designed the data-acquiring architecture to download data from NCBI's public database without interruption.

### Building My Own Data Center

May 2022 – Aug 2023

- I built my own data center from the ground. I have conducted searches on my own and applied learned knowledge in the real world.
- Task completed: crafting the interior layout, implementing an eco-friendly cooling and ventilation solution, engineering an efficient power distribution system, establishing robust security measures, setting up a high-speed 40G network, devising a hybrid storage solution, and deploying optimized hypervisors and data servers.

## Honors and Awards

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### Dean's List

Boston University

Jan 2022

### Dean's List

Boston University

May 2020

## VOLUNTEER EXPERIENCE

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### Registration & General Help

ACM Conference on Equity and Access in Algorithms, Mechanisms, and Optimization (EAMMO)

Oct 2023  
Boston, MA, USA

- Helped conference participants during the check-in process.
- Distributed nametags, marked their arrival, and provided general help.

## SKILLS

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**Programming & Computer Languages:** Python, Java, C, C#, C++, HTML, CSS, and SQL

**Software & Toolsets:** Word, Excel, Visio, PowerPoint, G-Suite, Photoshop, Premiere Pro, After Effects, and Vivado

**Technical:** Nginx, Apache, MySQL/MariaDB, Git, OpenSSL, EJBCA, PyTorch, WordPress, Active Directory, and Ansible.

**Operating System:** CentOS, Debian, Ubuntu, VMware vSphere 6.7+, Microsoft Windows, Mac OS, Arista EOS.