

JINQI (KEVIN) LU

Ph.D. Student

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RESEARCH INTERESTS

I have a deep passion for a wide range of cutting-edge computer technologies, including High Performance Networks, Cloud Computing, Databases, 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

Ph.D. in Computer Science

Johns Hopkins University

Advisor: *Professor Soudeh Ghorbani*

Expected May 2029

Baltimore, MD, USA

M.Sc. in Computer Science

Boston University

Advisor: *Professor Manos Athanassoulis*

Jan 2024

Boston, MA, USA

B.A. in Computer Science

Boston University

May 2022

Boston, MA, USA

PUBLICATIONS

1. S. Abdous, J. Lu, J. Wan, E. Sharafzadeh, Y. Zhang, S. Ghorbani. **One to Many: Closing the Bandwidth Gap in AI Datacenters with Scalable Multicast**. To appear in ACM Workshop on Hot Topics in Networks (HotNets '25), November 2025.
2. Sana Mahmood, Jinqi Lu, and Soudeh Ghorbani. 2025. **Orderly Management of Packets in RDMA by Eunomia**. In Proceedings of the 9th Asia-Pacific Workshop on Networking (APNET '25). Association for Computing Machinery, New York, NY, USA, 17–23. <https://doi.org/10.1145/3735358.3735392>
3. 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.
4. 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>
5. 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
6. 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.

7. Zhang L., Li H., Shi L., Geng J., Zhang H., Chen H., Zhao P., Xiao Y., Lu J., Li Z., Pu H., Hou C., Li C., Gao C., Song X., Bao Z., Zhai B., Guo B., Yang B., Lu X., Yu Q. **Mechanism and efficacy of Etanercept in treating autoimmune-like manifestations of COVID-19 in elderly individuals.** Immunobiology, 230(3), 2025, Article 152898.
<https://doi.org/10.1016/j.imbio.2025.152898>

RESEARCH EXPERIENCE

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.

PROFESSIONAL EXPERIENCE

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

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

Sep 2025 – Dec 2025

Teaching Assistant (EN.601.419/619 Cloud Computing)

- Primarily responsible for teaching-related tasks.
- Conducting lab/info sessions and holding office hours, preparing rubrics and grading submissions, managing course platforms and addressing questions.

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

Genetic Analysis Research Pipeline

Jun 2020 – Jan 2025

Beijing JingYouQiKang Science & Technology Co., Ltd

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.

Personal Data Center: Design & Deployment

May 2022 – Sep 2024

- Designed and built a private data center from the ground up, applying self-taught knowledge and practical research.
- Completed end-to-end tasks including: interior layout design, eco-friendly cooling and ventilation systems, power distribution engineering, physical and network security, 40G high-speed Ethernet networking, hybrid storage architecture, and deployment of optimized hypervisors and data servers.

Personal Data Center: 100G Networking & Power Systems

May 2025 – Aug 2025

- Led a full infrastructure upgrade to support 100G Ethernet and EDR InfiniBand networking.
- Deployed a UPS-backed power system covering servers, security, and surveillance infrastructure.
- Designed and installed a hybrid solar-grid energy system, including inverter, battery arrays, solar panels, cabling, breakers, and system integration. These were fully self-researched, sourced, and implemented.

Honors and Awards

Dean's List

Jan 2022

Boston University

Dean's List

May 2020

Boston University

VOLUNTEER EXPERIENCE

Registration & General Help

Oct 2023

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

Boston, MA, USA

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

SKILLS

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

Software: Word, Excel, Visio, PowerPoint, G-Suite, Photoshop, Premiere Pro, After Effects, and Vivaldo

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, Arista EOS, and NVIDIA MLNX-OS.