

# Sooyoung Lim

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CONTACT INFORMATION	Sookmyung Women's University Division of Computer Science Seoul 04310, Republic of Korea	Phone: +82-10-9389-7541 E-mail: <a href="mailto:slim@sookmyung.ac.kr">slim@sookmyung.ac.kr</a> Website: <a href="https://sooyounglim.github.io">sooyounglim.github.io</a>
RESEARCH INTERESTS	Big data software platforms, parallel & distributed computing, non-volatile memory, storage systems, Compute Express Link (CXL) technologies and applications	
STRENGTHS	<b>Large Open-source Programming:</b> Analyzed and improved large open-source platforms <b>Research Capability:</b> Authored three papers in renowned SCIE journals	
EDUCATION	<b>Sookmyung Women's University</b> , Seoul, Republic of Korea	
	<b>Master of Engineering in Computer Science</b>	Mar 2022 - Feb 2024
	<ul style="list-style-type: none"><li>• Thesis: <i>Redesigning Hadoop YARN Architecture for Heterogeneous Single Board Computer Clusters</i></li><li>• Adviser: Prof. Byeong-Mo Chang</li><li>• Committee: Prof. Dongchul Park and Prof. Yoonjin Kim</li><li>• Total GPA of 4.44/4.5</li></ul>	
	<b>Bachelor of Engineering in Software Convergence</b>	Mar 2017 - Feb 2022
	<ul style="list-style-type: none"><li>• Intensive Major in Software Convergence (Major GPA: 4.03/4.5)</li><li>• Interdisciplinary Major in Big Data Analysis</li><li>• Total GPA of 3.92/4.5</li></ul>	
PUBLICATIONS	<p>[1] <a href="#">S. Lim</a> and D. Park, "Automatic Reconfiguring the Node-Level Parallelism of YARN in Heterogeneous Low-Power Clusters," <i>Journal of Big Data</i>, 2024. (<b><i>under review</i></b>) (JCR: top 5.2%)</p> <p>[2] <a href="#">S. Lim</a> and D. Park, "Improving Hadoop MapReduce performance on heterogeneous single board computer clusters," <i>Future Generation Computer Systems</i>, vol. 160, pp. 752-766, Nov., 2024. (JCR: top 9.4%) [<i>paper</i>]</p> <p>[3] <a href="#">S. Lim</a> and D. Park, "Efficient Stack Distance Approximation Based on Workload Characteristics," <i>IEEE Access</i>, vol. 10, pp. 59792-59805, Jun., 2022. (JCR: top 34.7%) [<i>paper</i>]</p>	
RESEARCH EXPERIENCE	<b>Chung-Ang University</b> , Seoul, Republic of Korea <i>Post-Master's Researcher</i> (Adviser: Prof. Dongchul Park)	
	<ul style="list-style-type: none"><li>• <b>Automatic Configuration of Big Data Processing Platform</b></li></ul>	Sep 2023 - Present
	Designed an automatic Hadoop configuration mechanism to effectively utilize the internal parallelism of cluster nodes based on actual computing capability	
	<b>Sookmyung Women's University</b> , Seoul, Republic of Korea <i>Research Assistant</i> (Big Data Storage Systems Lab., Adviser: Prof. Dongchul Park)	
	<ul style="list-style-type: none"><li>• <b>Big Data Processing on Heterogeneous Low-Power Clusters</b></li></ul>	Jun 2022 - Apr 2024
	(Master's thesis project)	
	Designed two (master-driven vs. slave-driven) YARN scheduling policies for more effective processing and Hadoop task distribution mechanisms for consistent performance on resource-frugal clusters	
	<ul style="list-style-type: none"><li>• <b>Stack Distance Approximation Algorithm</b></li></ul>	Mar 2022 - Jun 2022
	Designed an efficient stack distance approximation algorithm based on workload characteristics and applied the scheme to a cache behavior simulation	
	<b>Sookmyung Women's University</b> , Seoul, Republic of Korea <i>Undergraduate Student</i>	
	<ul style="list-style-type: none"><li>• <b>Graduation Project</b></li></ul>	Sep 2020 - Mar 2021
	<ul style="list-style-type: none"><li>• <i>User-based Clothing Recommendation Chatbot Service</i> [<i>code</i>]</li><li>- Deep Learning: preprocessed crawled data using image segmentation and trained a CNN model</li><li>- Web: implemented the model on the customized webpage for supporting a conversational recommender</li></ul>	

## • Android Applications

- *Location-Based Expiring Discounted Food Introduction Service* [code] Nov 2019 - Jan 2020  
- Integrated APIs to manage the exchange of data between the mobile application and backend servers
- *Popularity Voting Service for Members of Parliament* [code] Jun 2018 - Jul 2018  
- Translated wireframes into functional interfaces using XML layouts and Android UI components

## HONORS AND AWARDS

- **Excellent Alumna Scholarship**, Sookmyung Women's University 2022–2023
- **Research Support Scholarship**, Sookmyung Women's University 2022
- **Career Development Scholarship**, Sookmyung Women's University 2020
- **2nd prize, Sookmyung Hackathon powered by AWS**, Sookmyung Women's University 2019
- **Special Scholarship for Academic Support**, Sookmyung Women's University 2019, 2020
- **Honor Student Scholarship**, Sookmyung Women's University 2019, 2020, 2021
- **Academic Excellence Scholarship for Freshmen**, Sookmyung Women's University 2017

## TEACHING EXPERIENCE

**Sookmyung Women's University**, Seoul, Republic of Korea

*Teaching Assistant*

- **Linux System** Fall 2022, Fall 2023  
- Managed a training lecture once a week for over 120 undergraduate students, answered questions in person and online, marked assignments, and proctored exams
- **Data Structures** Spring 2023  
- Participated in the creation and review of assignments based on Python, answered questions via e-mail, marked assignments, and proctored exams
- **Introduction to Programming** Spring 2023  
- Managed C programming training lecture once a week for 20 undergraduate students, answered questions in person and online, and marked assignments
- **Big Data Processing** Fall 2022  
- Created instructional videos for Apache Hadoop and Spark Wordcount tutorial assignments, addressed questions on the online bulletin board, and marked assignments

## EXTRACURRICULAR ACTIVITIES

### Leadership Experience

- **Data Science Federation Club** Mar 2020 - Jul 2020  
- Led a 12-week team study designed to teach Python programming and data science concepts to students from other departments
- **Department Representative** Mar 2017 - Dec 2017  
- Contributed to building the foundation of the newly established division by dedicating 32 hours of volunteer work per semester and executed a variety of departmental events such as welcoming party and field trips

### Club Activities

- **ALGOS: ACM-ICPC Program Competition Preparation Club** Mar 2018 - Feb 2019  
- Participated in study groups for in-depth problem-solving skills and prepared for 2018 ACM-ICPC (Association for Computing Machinery - International Collegiate Programming Contest) regional preliminaries
- **Undergraduate IT Venture Startup Club** Mar 2018 - Jul 2018  
- Learned techniques of implementing Android applications based on Kotlin and gained hands-on experience by creating IT services through a 2-week collaboration with other departments (i.e., Plan, Design and Server)

## TECHNICAL SKILLS

**Programming** C/C++, Python, Java, UNIX Shell, HTML/CSS, R,  $\text{\LaTeX}$   
**IDE** Atom, CLion, PyCharm, IntelliJ, Texifier  
**Operating Systems** Ubuntu, Mac OS, Android

## REFERENCES

**Professor Dongchul Park**  
 Department of Industrial Security  
 Chung-Ang University  
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**Professor Byeong-Mo Chang**  
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**Professor Yoonjin Kim**  
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