

# Gina Sohn

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[Website](#)   [LinkedIn](#)

Research interests	<b>Hardware Accelerator, Domain-specific Language, Compiler, HW/SW Co-design</b>	
Education	<b>Stanford University</b>	Sep.2022 - Present
	Ph.D., Electrical Engineering (Advisor: <b>Kunle Olukotun</b> )	
	<b>Seoul National University</b>	Mar.2018 - Aug.2022
	Bachelor of Science, Computer Science and Engineering Total GPA of 4.16 / 4.3 (Summa Cum Laude)	
Publications	<b>Streaming Tensor Program: A streaming abstraction for dynamic parallelism</b>	
	<u>Gina Sohn</u> , Genghan Zhang, Konstantin Hossfeld, Jungwoo Kim, Nathan Sobotka, Nathan Zhang, Olivia Hsu, Kunle Olukotun	
	<i>Proceedings of the International Conference on Architectural Support for Programming Languages and Operating Systems (ASPLOS), Mar. 2026</i> [ <a href="#">paper</a> ]	
	<b>The Dataflow Abstract Machine Simulator Framework</b>	
	Nathan Zhang, Rubens Lacouture, <u>Gina Sohn</u> , Paul Mure, Qizheng Zhang, Fredrik Kjolstad, Kunle Olukotun	
	<i>Proceedings of the International Symposium on Computer Architecture (ISCA), June 2024</i> [ <a href="#">paper</a> ]	
	 <b>ISCA Distinguished Artifact Award</b>	
	<b>ARK: Fully Homomorphic Encryption Accelerator with Runtime Data Generation and Inter-Operation Key Reuse</b>	
	Jongmin Kim, Gwangho Lee, Sangpyo Kim, <u>Gina Sohn</u> , John Kim, Minsoo Rhu, and Jung Ho Ahn	
	<i>Proceedings of the 55th IEEE/ACM International Symposium on Microarchitecture (MICRO), Oct., 2022.</i> [ <a href="#">paper</a> ]	
	<b>Behemoth: A Flash-centric Training Accelerator for Extreme-scale DNNs</b>	
	Shine Kim, Yunho Jin, <u>Gina Sohn</u> , Jonghyun Bae, Tae Jun Ham, and Jae W. Lee.	
	<i>Proceedings of the 19th USENIX Conference on File and Storage Technologies (FAST), Feb, 2021.</i>	
	[ <a href="#">paper</a> ] [ <a href="#">slides</a> ]	
Workshop	<b>Dynamic Memory for Distributed Architectures</b>	
	<u>Gina Sohn</u> , Genghan Zhang, Suguna Velury, Nathan Zhang, Kunle Olukotun	
	<i>The Sixth Young Architect Workshop</i> (Organized in conjunction with ASPLOS 2024)	
	[ <a href="#">pdf</a> ]	
Honors and Scholarships	<b>Graduate Research Fellowship Program</b> , National Science Foundation, 2025-2028	
	<b>Stanford Graduate Fellowship (Burt &amp; Deedee McMurtry Fellow)</b> , Stanford University, 2022-2025	
	<b>Silver Prize</b> , Academic Festival of College of Liberal Studies, Seoul National University, 2021	
	<b>National Scholarship for Science and Engineering</b> , Korea Student Aid Foundation, 2020-2021	
	<b>Eminence Scholarship</b> , Seoul National University, 2019	

Research Experience	<b>Pervasive Parallelism Laboratory</b> (Advisor: Kunle Olukotun) Stanford University	Apr.2023 – Present Sep.2022 – Dec.2022
	<b>Stanford Accelerate Laboratory</b> (Advisor: Priyanka Raina) Stanford University	Jan.2023 – Mar.2023
	<b>SCALable Computer Architecture Laboratory</b> (Advisor: Jung Ho Ahn) Graduate School of Convergence Science and Technology, Seoul National University	Jan.2022 – Apr.2022
	<b>Architecture and Code Optimization Laboratory</b> (Advisor: Jae W. Lee) Samsung-SNU Cooperation R&D Center, Seoul National University	Jul.2020 – Sep.2020
Teaching Experience	<b>Digital Systems Design Lab</b> , Stanford University <i>Teaching Assistant</i>	Apr.2024 - Jun.2021
	<ul style="list-style-type: none"> <li>• Topics covered: Software / hardware design tradeoffs, Algorithm design for pipelining and parallelism, System latency and throughput tradeoffs, FPGA optimization techniques.</li> </ul>	
	<b>Computer Programming</b> , Seoul National University <i>Teaching Assistant</i>	Sep.2021 - Dec.2021
	<ul style="list-style-type: none"> <li>• Covered C++ and Java programming, Object-Oriented Programming</li> <li>• Revised lab materials and assignment descriptions, Participated in weekly Professor-TA meetings, Administered laboratories for 170 students every week, Answered questions online</li> </ul>	
Extracurricular & Leadership Activity	<b>Stanford Women in Electrical Engineering (WEE)</b>	Sep.2023 – Present
	<b>Seoul National University College of Engineering Honor Society (STEM)</b> <i>Academic Activity Director (Sep.2021-Feb.2022)</i>	Mar.2021 – Jun.2022
	<b>Korean-American Women in Science and Engineering (KWiSE)</b> <i>2021 Mentee Team Leader (Chapter: Los Angeles, USA)</i>	Mar.2021 – Dec.2022
	<b>Seoul National University Security Research Group (Guardian)</b>	Mar.2019 - Jul.2019