

Seungmin Cha

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EDUCATION

- **Yonsei University**, Seoul, South Korea Mar 2022 – Present
B.S. in Physics and Intelligent Semiconductor Technology (Double Major)
 - Relevant coursework: Quantum Mechanics, Electromagnetics, Materials Science, Intelligent Semiconductor Systems, Machine Learning, Deep Learning, Quantum Machine Learning, Statistical Mechanics, Thermodynamics, and Linear Algebra

RESEARCH INTERESTS

- **Semiconductor Devices and Processes:** Semiconductor Materials, Device Physics, Fabrication Processes, Process Integration
- **Quantum Computing:** Superconducting Qubits, Circuit QED, Quantum Error Correction, Quantum Machine Learning
- **Optics and Quantum Systems:** Quantum Optics, Light-Matter Interaction, Quantum Sensing
- **Data Analysis:** Financial Time Series Analysis, Statistical Modeling
- **Condensed Matter Physics:** Low-temperature Systems, Quantum Materials

RESEARCH EXPERIENCE

- **Undergraduate Researcher**, Quantum Optics Lab, Yonsei University Mar 2026 – Present
 - Advisor: Prof. Seongjin Hong
 - Study and implement the active optical intensity interferometry framework presented in *Active Optical Intensity Interferometry* (Phys. Rev. Lett., 2025).
 - Develop simulation code and perform data processing and analysis for correlation-based image reconstruction in optical interferometry.
 - Participate in optical experiments to test and reproduce interferometric imaging schemes for long-baseline, high-resolution sensing.
 - Documented research progress, simulation workflows, and literature reviews in a [personal archive](#).
- **Undergraduate Researcher**, Quantum Information Theory Lab, Yonsei University Jan 2024 – Jun 2024
 - Advisor: Prof. Kyungsun Moon
 - Studied the theoretical foundations of quantum machine learning through the textbook *Machine Learning with Quantum Computers* and prepared presentation slides for lab seminars.
 - Read and reviewed *Supervised Learning with Quantum-Enhanced Feature Spaces* (Nature, 2019), with a focus on quantum feature maps, kernel estimation, and classification with support vector machines.
 - Presented and discussed core concepts in quantum-enhanced supervised learning during lab meetings.
 - Maintained written study notes and summaries on quantum computing topics on a [personal archive](#).

WORK EXPERIENCE

- **SK hynix Ambassador** Mar 2026 – Present
 - Create multiple semiconductor-focused social media contents communicating SK hynix's technologies, corporate vision, and industry insights from a student perspective. [▶](#) [📄](#)
 - Appear in ambassador content for the SK hynix YouTube channel, including an AI semiconductor masterclass featuring Prof. Changhwan Shin of Korea University.

- Film job-introduction and on-site content by visiting SK hynix campuses with fabrication facilities, observing workplace environments, and introducing semiconductor roles through field-based experiences.
- Participate in a monthly ambassador program featuring semiconductor and AI trend lectures, networking with industry professionals, and other professional development sessions.
- **Signals Intelligence (SIGINT) Specialist**, Republic of Korea Army Aug 2024 – Feb 2026
 - Served as a Signals Intelligence specialist and Squad Leader in the Republic of Korea Army.

AWARDS AND SCHOLARSHIPS

- **Military Honor Family Designation** (Byeongyeok Myeongmunga) 2026
 - Recognized as a distinguished military family for three consecutive generations of honorable active-duty service.
- **Scholarship for Outstanding STEM Talent**, KC Scholarship Foundation 2024
- **5th Place**, DB GAPS Investment Competition 2023
- **Minister of Science and ICT Award** 2013

CERTIFICATIONS

- **ADsP** (Advanced Data Analytics Semi-Professional) 2025
- **Computer Literacy Level 2** 2025
- **SQLD** (SQL Developer) 2023

ACTIVITIES

- **RU:SH** (Runners United: Sinchon) Feb 2026 – Present
 - Running crew with students and alumni from Yonsei, Ewha, and Sogang Universities ([article](#)).
- **QIYA** (Quantum Informatics at Yonsei Academy) Jan 2026 – Present
 - Completed the *Basic Quantum Information Theory* course and IBM Learning courses as part of structured study in quantum information science.
 - Wrote regular reports and delivered presentations on course materials and related topics in quantum information.
- **Completion of the 5th Quantum Information Science Winter School** Jan 2026
 - Program organized by the Korean Physical Society (KPS) and the Quantum Information Society of Korea (QISK).
- **Kwang** (CrossFit Club at Yonsei University) Mar 2023 – Present
- **Gongsarang** (Basketball Club at Yonsei University) Mar 2022 – Dec 2022

ADDITIONAL INFORMATION

- **Languages:** Korean (Native), English (Working Proficiency)
- **Technical Skills:** Python, Qiskit, SQL, Data Processing, Data Analysis
- **Interests:** Running (10K: 40:49, Half Marathon: 1:34:04, Full Marathon Finisher), CrossFit, Weight Training, Reading, and Film