

Myeongjin Shin

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EDUCATION

KAIST

B.Sc. in School of Computing, Double major in Mathematical Sciences
GPA: 4.00/4.30, Major GPA: 4.02/4.30

Daejeon, Korea

Mar 2021 –

Gyeonggi Science High School For The Gifted

Computer Science

Suwon, Korea

Mar 2018 – Feb 2021

RESEARCH AND WORK EXPERIENCE

Research Institute of Mathematics, Seoul National University.

Undergraduate Researcher

Seoul, Korea

Feb 2022 – Present

- Explored applications and advancements of quantum machine learning, incorporating ideas from classical neural networks to improve existing methods or explore novel approaches. And researched quantum channel capacities and quantum information.

Republic of Korea Air Force

Mandatory Military Service

Pyeongtaek, Korea

Aug 2024 – May 2026

- Missile Defense Command

Windly

Internship

Seoul, Korea

Jan 2024 – Mar 2024

- Researched and programmed state of art image AI translation

KRAFTON

Internship

Seoul, Korea

Jul 2023 – Aug 2023

- Researched AI optimization methods and image processing

Young Inch Lab

CEO

Seoul, Korea

Apr 2022 – Jan 2023

- Managed a startup that enables easier access to subtitles

KAIST NMSL

Research Intern

Daejeon, Korea

Nov 2021 – Apr 2022

- Researched finger tracking methods incorporate with machine learning

AWARDS & ACHIEVEMENTS

2024 Quantum Hackathon Korea

1st place. Ministry of Science and ICT prize.

Jun 2024

WorldQuant Brain research consultant

Sep 2023

2023 Quantum Hackathon Korea

3rd place. IonQ special prize.

Jun 2023

KRAFTON AI Fellowship

10,000k ₩ prize money

Jul 2023

QHack certificate of achievement (advanced)

Feb 2023

Xanadu QHack Coding Challenges

Power-Up Awards, IBM Quantum/PINQ2 and NVIDIA/Cytxtera/Run :AI

Feb 2023

KAIST Presidential Fellowship(KPF)

Mar 2021

Best Paper Award from Gyeonggi Science High School

1st place. "Fast elliptic curve operation using dynamic programming on jacobian coordinates(2020)"

Feb 2021

HONORS

KRAFTON AI Fellowship

Jul 2023 – Aug 2023

KAIST Presidential Fellowship(KPF)

Mar 2021 –

PAPERS

Myeongjin Shin, Junseo Lee, Seungwoo Lee, Kabgyun Jeong, “Resource-efficient algorithm for estimating the trace of quantum state powers”, arxiv preprint (Feb 2025)

Myeongjin Shin, Seungwoo Lee, Junseo Lee, Mingyu Lee, Donghwa Ji, Hyeonjun Yeo, Kabgyun Jeong, “Disentangling quantum neural networks for unified estimation of quantum entropies and distance measures”, Physical Review A 110 (6), 062418 (Dec 2024)

Myeongjin Shin, Junseo Lee, Kabgyun Jeong, “Estimating quantum mutual information through a quantum neural network”, Quantum Information Processing 23 (2), 1-16 (Feb 2024)

Mingyu Lee, **Myeongjin Shin**, Junseo Lee, Kabgyun Jeong, “Mutual information maximizing quantum generative adversarial network and its applications”, arxiv preprint (Sep 2023)

Myeongjin Shin, “Fast elliptic curve operation using dynamic programming on jacobian coordinates”, (Oct 2019)

CONTRIBUTED TALKS [†]denotes the speaker.

Myeongjin Shin, Junseo Lee[†], Seungwoo Lee, Kabgyun Jeong, “Resource-efficient algorithm for estimating the trace of quantum state powers”. Annual Meeting of Korean Mathematical Society (Oct 2024)

Myeongjin Shin[†], Seungwoo Lee, Kabgyun Jeong, “Disentanglement provide a unified estimation for quantum entropies and distance measures”. KPS spring meeting. (Apr 2024)

Myeongjin Shin[†], “Disentanglement provides a unified estimation for quantum entropies and distance measures”. 2nd CQNC Winter Kick-off Workshop. (Dec 2023)

Myeongjin Shin[†], Junseo Lee and Kabgyun Jeong, ”Estimating Quantum Entropies Using Quantum Convolutional Networks”, KSIAM 2023 Annual Meeting. (Nov 2023)

Mingyu Lee[†], **Myeongjin Shin**, Junseo Lee and Kabgyun Jeong, ”Mutual Information Maximizing Quantum Generative Adversarial Network and Its Applications”, KSIAM 2023 Annual Meeting. (Nov 2023)

Myeongjin Shin[†], Junseo Lee and Kabgyun Jeong, ”Estimating Quantum Mutual Information Through A Quantum Neural Network”, 1rd CQNC Winter Kick-off Workshop. (Nov 2022)

INVITED TALKS

Myeongjin Shin[†], Junseo Lee, Seungwoo Lee, Kabgyun Jeong, “Resource-efficient algorithm for estimating the trace of quantum state powers”. Quantum Information Science Club Association (June 2025)

Mingyu Lee[†], **Myeongjin Shin**, Junseo Lee and Kabgyun Jeong, ”Mutual Information Maximizing Quantum Generative Adversarial Network and Its Applications in Finance”, Quantum FinTech Webinars Series, Rethinc. Labs, Frank Hawkins Kenan Institute of Private Enterprise, The University of North Carolina at Chapel Hill, UNC Kenan-Flagler Business School, USA. (Nov 2023)

Myeongjin Shin[†], Junseo Lee and Kabgyun Jeong, ”Introduction to Quantum Machine Learning”, CS Katha Barta talk, School of Computer Sciences, NISER, Bhubaneswar, Odisha, India. (Aug 2023)

POSTER PRESENTATION

Myeongjin Shin[†], Junseo Lee, Seungwoo Lee, Kabgyun Jeong, "Resource-efficient algorithm for estimating the trace of quantum state powers", 28th Annual Conference on Quantum Information Processing (QIP 2025)

Myeongjin Shin[†], Junseo Lee and Kabgyun Jeong, "Disentanglement provides a unified estimation for quantum entropies and distance measures", 27th Annual Conference on Quantum Information Processing (QIP 2024)

Mingyu Lee[†], **Myeongjin Shin**, Junseo Lee and Kabgyun Jeong, "Mutual Information Maximizing Quantum Generative Adversarial Network and Its Applications", 27th Annual Conference on Quantum Information Processing (QIP 2024), Taipei International Convention Center (TICC), Taipei (2024)

Myeongjin Shin[†], Junseo Lee and Kabgyun Jeong, "Estimating Quantum Mutual Information Through A Quantum Neural Network", 23rd AQIS Conference (AQIS 2023), KIAS, Seoul (2023)

Myeongjin Shin[†], Junseo Lee and Kabgyun Jeong, "Estimating Quantum Mutual Information Through A Quantum Neural Network", 18th TQC Conference (TQC 2023), Aveiro, Portugal (2023)

SKILLS AND QUALIFICATIONS

Programming languages & Tools

Advanced skills: C/C++, Python

Basic skills: Qiskit, PennyLane, Pytorch, Tensorflow, JAVA, Javascript, Rust, React, Processing

Algorithms and problem solving skills

Codeforces | rating 1894 (Expert), max rating 1962 (Candidate master), [godthinkun](#)

Languages

Native | Korean

Fluent | English

Basic | German, Spanish

INTERESTS

- Quantum Machine Learning.
- Quantum Algorithms.
- Quantum Sensing.
- Machine Learning and its Applications.

Last updated: June, 2025.