Byeongseo Min

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Google Scholar

Research Interests

AI Privacy, Privacy-Preserving Machine Learning (PPML), Homomorphic Encryption

Education

Pohang University of Science and Technology (POSTECH) — South Korea
M.S. in Electrical Engineering — Feb. 2027 (expected)
- Advisors: Prof. Yongjune Kim

Chung-Ang University — South Korea
B.S. in Computer Science and Engineering — Feb. 2025
- GPA: 4.31/4.50 (*Summa Cum Laude*)

Publications

*: Equal contribution

[1] H. Park*, **B.-S. Min***, J. Woo, M.-W. Jeong, J. Shin, Y. Lee, Y.-S. Kim, and Y. Kim, "Efficient softmax reformulation for homomorphic encryption via moment generating function", *arXiv preprint arXiv:2602.01621*, Feb. 2026, *submitted to ICML 2026*.

[2] **B.-S. Min** and J.-W. Lee, "Low-latency linear transformations with small key transmission for private neural network on homomorphic encryption", *Cryptology ePrint Archive*, Jun. 2024, *submitted to Neurocomputing*.

Teaching

- **Teaching Assistant** at POSTECH — Spring 2026
  Mathematics for Communications and AI (EECE490A)
- **Teaching Assistant** at Chung-Ang University — Fall 2023
  Mobile App Development (47713)

Service

- **Reviewer**, IEEE Transactions on Dependable and Secure Computing — Feb. 2026
- **Reviewer**, IEEE Transactions on Dependable and Secure Computing — Apr. 2025

Projects

- Optimization Methods for Improving the Accuracy of Homomorphically Encrypted LLM Inference — 2026
  LG Electronics
- Optimizing Homomorphic Computations for Transformer Models — 2025
  LG Electronics
- Building and optimizing GPU–based homomorphic encryption library — 2023
  Samsung Advanced Institute of Technology

Patent

1. Efficient Operation Processing System or Method Therefor, Y. Kim, J. Woo, **B.-S. Min**, and H. Park, 10-2026-0006852, filed.
2. Computational efficient approximation method for softmax, Y. Kim, J. Woo, **B.-S. Min**, and H. Park, 10-2025-0095082, filed.
3. Device and Method for Providing Homomorphic Encryption-Based Private Neural Networks Using Low-Latency Linear Transformation, J.-W, Lee, and **B.-S. Min**, 10-2025-0018299, filed.
4. Apparatus and Method of Homomorphic Encryption Operation, J.-W, Lee, **B.-S. Min**, and S. Song, 10-2024-0003754, filed.

Extracurricular Activities

- Band Club (Nuriwoolim), Chung-Ang University 2020–2025
  Vocal, Keyboard
- Theater Club (Yeongjuk Stage), Chung-Ang University 2024–2025
  Actor, Assistant Director