

Catherine Hae Seung Jeon

[Google Scholar](#) — [ORCID](#) — [GitHub](#) — [LinkedIn](#) — [Website](#)

EDUCATION

- ❖ **University of Chicago** Illinois, United States
09/2026 — Present
Ph.D. in Computer Science (Advisor: [Prof. Ben Y. Zhao](#))
 - Fellowship: Liew Family Fellowship
- ❖ **Ewha Womans University** Seoul, South Korea
09/2024 — 08/2026
M.S. in Computer Science & Engineering (Advisor: [Prof. S.E. Oh](#))
 - GPA: 4.26/4.30
- ❖ **Ewha Womans University** Seoul, South Korea
03/2020 — 08/2024
B.S. in Computer Science & Engineering
 - GPA: 4.15/4.30
 - Honors: Dean's List (7 semesters), Summa Cum Laude

PUBLICATIONS

❖ Conference Publications

Haeseung Jeon, Yeonsoo Cho, Nate Mathews, Rob Jansen, Marc Juarez, and Se Eun Oh (2026). "Brewing Under Pressure: More Realistic Tor Flow Correlation Considering Low FPRs". In *Proceedings of the 2026 ACM SIGSAC Conference on Computer and Communications Security*. [[CORE A*](#), [Acceptance Rate=20%](#)]

Jimin Park, **Haeseung Jeon**, AHyun Ji, Aritran Piplai, Mohammad Saidur Rahman, and Se Eun Oh (June 9, 2026). "TabCL: Continual Malware Classification with Tabular-Aware Generation". In *Pacific-Asia Conference on Knowledge Discovery and Data Mining*, pp. 547–559. [📄](#) [🔗](#) [🔗](#) [[CORE B](#), [Acceptance Rate=25%](#)]

Haeseung Jeon*, Sujin Kim*, Nate Mathews, Hosung Kang, and Se Eun Oh (Apr. 12, 2026). "RoFiRe: Robust Website Fingerprinting on Real-World Tor Traffic via Improved Augmentation and Normalization". In *Proceedings of the ACM Web Conference 2026*, pp. 3335–3346. [📄](#) [🔗](#) [🔗](#) [[CORE A*](#), [Acceptance Rate=20%](#)]

Chaiwon Hwang*, **Haeseung Jeon***, Jiwoo Hong, Hosung Kang, Nate Mathews, Goun Kim, and Se Eun Oh (Aug. 24, 2025). "Enhancing Search Privacy on Tor: Advanced Deep Keyword Fingerprinting Attacks and BurstGuard Defense". In *Proceedings of the 20th ACM Asia Conference on Computer and Communications Security*, pp. 621–634. [📄](#) [🔗](#) [🔗](#) [[CORE A](#), [Acceptance Rate=20%](#)]

❖ Journal Publications

Noori Kim, **Catherine H. S. Jeon**[†], and Mingsian R Bai (Apr. 28, 2026). "Impedance-Based Acoustic Load Inference Using Intelligent Speaker Sensors". In *IEEE Sensors Journal*. [📄](#) [🔗](#) [[SCIE](#), [Q1](#), [IF=4.5 \(JCR 2025\)](#)]

Noori Kim, Keisuke Alexander Nakamura, Max Chen, **Catherine H. S. Jeon**[†], and Mingsian R Bai (Mar. 23, 2026). "Speakers as sensors: Machine learning-based earphone impedance analysis for ear canal insertion depth prediction". In *The Journal of the Acoustical Society of America* 159.3, pp. 2729–2740. [📄](#) [🔗](#) [[SCIE](#), [Q1](#), [IF=2.6 \(JCR 2025\)](#)]

❖ Short Paper/Poster Publications

Haeseung Jeon, Jiwoo Hong, Saeyeon Hong, Hosung Kang, Bona Kim, Se Eun Oh, and Noori Kim (Aug. 22, 2025). "Domain-adapted automatic speech recognition with deep neural networks for enhanced speech intelligibility prediction". In *Proceedings of the 6th Clarity Workshop on Improving Speech-in-Noise for Hearing Devices*, pp. 15–17. [Short Paper] [📄](#) [🔗](#) [[🏆 Challenge Rank Top 5](#)]

Chaiwon Hwang*, **Haeseung Jeon***, Goun Kim, Jiwoo Hong, Hosung Kang, and Se Eun Oh (Dec. 12, 2024b). "Securing Search Privacy on Tor: Deep Keyword Fingerprinting and BurstGuard Defense". In *2024 Annual Computer Security Applications Conference*. [Poster] [📄](#) [🔗](#)

Chaiwon Hwang*, **Haeseung Jeon***, Goun Kim, Jiwoo Hong, Hosung Kang, and Se Eun Oh (June 26, 2024a). "DKF: Employing Deep Learning for Keyword Fingerprinting Attacks on Tor".

*Equally contributing authors, listed in alphabetical order.

[†] Legal name in South Korea: Haeseung Jeon; United States: Catherine Hae Seung Jeon.

RESEARCH EXPERIENCE

- ❖ **Ewha Womans University | AI Security Lab** Seoul, South Korea
Graduate Research Assistant & Lab Head (Advisor: [Prof. S.E. Oh](#)) 09/2024 — 08/2026
 - Coordinated lab-wide events (e.g., open houses, stand-ups, and joint lab seminars), managed the procurement of experimental equipment, and handled GPU server health checks.
 - Led the development of a few-shot learning model for website fingerprinting attack. Proposed a robust framework (pre-norm, RMSNorm, and adaptive window augmentation), delivering up to 9% gains over a SimCLR-based baseline and achieving new SOTA.
 - Drove development of a feature embedding model for flow correlation attack. Designed a CvT-style architecture with online mining and KDE-based feature representation. Achieved 88% TPR at an extremely low FPR, establishing the real-world feasibility of the attack.
- Undergraduate Research Assistant* 01/2023 — 08/2024
 - Led research on the first DL-based website fingerprinting model, achieving 41-55% gains over a previous SOTA. Built a Selenium crawler to collect 300K+ fresh samples over 1+ years, profiled unique data patterns, and benchmarked ML/DL baselines on a new dataset.
- ❖ **Purdue University | Sensor, Electro-Acoustics Technology Lab** Indiana, United States
Visiting Researcher (Research Advisor: [Prof. N. Kim](#)) 01/2026 — 05/2026
 - Designed a CNN-based physical-basis (e.g., acoustic load) prediction model using the electroacoustic coupling characteristic of earphones. Led customer discovery of the proposed solution through NSF Regional I-Corps, resulting in acceptance into the National I-Corps.
- Part-Time Researcher* 05/2025 — 01/2026
 - Led a team in the 3rd Clarity Prediction Challenge (CPC3), developing a speech intelligibility prediction model for hearing-aid evaluation. Designed and implemented a fundamental architecture (ASR-backed Transformer) and training pipeline, achieving 5th place.
- ❖ **UTEP | Intelligent & Quantum Secure Advanced Cyber Defense Lab** Texas, United States
Visiting Researcher (Research Advisor: [Prof. M.S. Rahman](#)) 06/2025 — 08/2025
 - Built a continual learning framework with a conditional tabular GAN and improved storage/training efficiency by generative replay. Drove overall experiments and achieved up to 16% improvements over the baselines (GAN and TVAE) in Class-IL/Time-IL scenarios.

INDUSTRY EXPERIENCE

- ❖ **Samyang Data Systems Inc. | Cloud Solutions Team** Seoul, South Korea
Cloud Engineer Intern 03/2023 — 06/2023
 - Led a project developing a Golang monitoring agent and E2E pipeline that collects, stores, and visualizes real-time metrics from AWS infrastructure by utilizing InfluxDB and Grafana. Deployed agents to 10+ client servers, ensuring software reliability through stress tests.

AWARDS & SCHOLARSHIPS

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| UChicago, Liew Family Fellowship — USD \$8K (5 yrs.) | FA 2026 — FA 2030 |
| EWU, Outstanding Academic Paper Award — KRW ₩1M (≈ USD \$750) | SP 2026 |
| Boeing Korea, Ewha-Boeing Scholarship — KRW ₩4M (≈ USD \$3K) | SP 2026 |
| EWU, Outstanding Ewha Scientist Scholarship — half-tuition (2 yrs.) | FA 2024 — SP 2026 |
| Korea Computer Congress, Distinguished Paper Award | SP 2024 |
| EWU, Software Future Talent Scholarship — KRW ₩1M (≈ USD \$750) | SP 2024 |
| Huawei Korea, Huawei ICT Talent Scholarship — KRW ₩1M (≈ USD \$750) | FA 2023 |
| EWU, Honors Scholarship (top 6%) — quarter-tuition | FA 2023 |
| EWU, Highest Honors Scholarship (top 2%) — half-tuition | FA 2020, SP 2022, SP 2023 |
| EWU, W4 Admissions Scholarship (top entrant) — full-tuition (4 yrs.) | SP 2020 — SP 2024 |

COMMUNITY ENGAGEMENT

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| EWU CS Undergraduate Lab Fair, Invited Speaker | 09/2025 |
| UTEP CS Summer Research Symposium, Invited Speaker | 08/2025 |
| EWU CS Undergraduate Open Lab Seminar, Invited Speaker | 03/2025 |
| GDSC Devfest π 2024: Responsible AI in action, Invited Speaker | 03/2024 |
| AWS Cloud Club (ACC), Cloud Team Committee Member | 09/2023 — 08/2024 |
| EWU Undergraduate Peer Tutoring Program, Lecturer | 06/2022, 06/2024 |
| Google Developer Student Clubs (GDSC), Backend Team Leader | 09/2022 — 07/2024 |