Shiwon Kim (Sean)

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Continual Learning · Few-Shot Learning · Medical AI · Medical Image Analysis · Digital Healthcare

EDUCATION

M.S., Digital Analytics, **Yonsei University**, Seoul, South Korea   *Mar. 2023 - Aug. 2025*
- Advisor: Dr. Yu Rang Park
- Thesis: Debiasing Few-Shot Class-Incremental Learning via Dynamic Feature-Classifier Alignment

B.B.A., Business Administration, **Yonsei University**, Seoul, South Korea   *Mar. 2017 - Feb. 2023*
- Relevant Coursework: Business Analytics (A+), Business Programming (A+), Financial Engineering (A)
- Exchange Program: Foster School of Business, **University of Washington**, Seattle, WA (26 credits transferred to B.B.A.)   *Sep. 2018 - Jun. 2019*

PUBLICATIONS

(J: Journal, C: Conference, P: Preprint, ∗: Equal contribution, †: Corresponding author)

[C1] Does Prior Data Matter? Exploring Joint Training in the Context of Few-Shot Class-Incremental Learning
Shiwon Kim∗, Dongjun Hwang∗†, Sungwon Woo∗, Rita Singh†
International Conference on Computer Vision (ICCV) 2025 CLVision

[J1] Classification Models for Arthropathy Grades of Multiple Joints Based on Hierarchical Continual Learning
Bong Kyung Jang∗, **Shiwon Kim**∗, Jae Yong Yu, JaeSeong Hong, Hong Seon Lee, Jiwoo Park, Jeesoo Woo, Young Han Lee†, Yu Rang Park†
La Radiologia Medica (IF 2024: 9.7)

AWARDS AND FELLOWSHIPS

- **Academic Excellence Award (2nd Place)**, **Carnegie Mellon University Intensive AI Education Program**   *Feb. 2025*
  Awarded to top 3 of 34 students for academic excellence in an AI-intensive curriculum at Carnegie Mellon University.
- **Carnegie Mellon University Intensive AI Education Program**, **Ministry of Science and ICT (MSIT)**, **South Korea**   *Aug. 2024 - Feb. 2025*
  Selected as one of 34 graduate students nationwide, full support of tuition and living expenses.   45,000 USD
- **2nd Place, Yonsei Digital Healthcare Cybersecurity Competition**, **Yonsei University**   *Aug. 2024*
  Recognized for developing a robust medical image classification model against data poisoning.   750 USD
- **1st Place, NAVER Shopping × ISSU IT Collaboration Project**, **Yonsei University**   *Jun. 2021*
  Recognized for proposing user-centric product search and recommendation systems for e-commerce.   850 USD
- **Quarterly Dean's List**, **University of Washington**   *Winter 2019*
  Awarded to students who achieved academic excellence in 12 or more graded credits.

RESEARCH EXPERIENCE

Research Assistant in AI, **Medical Informatics Collaboration Unit**, **Yonsei University Health System**, Seoul, South Korea   *Jul. 2025 - Present*
- **Establishing a standardized and integrated multimodal cancer database at Yonsei University Severance Hospital**
  Perform data engineering and standardization to construct an AI-ready multimodal clinical database for 11 cancer types.

Graduate Research Assistant, **Digital Healthcare Lab**, **College of Medicine**, **Yonsei University**, Seoul, South Korea   *Mar. 2023 - Jun. 2025*
- **Continual learning for generalized arthropathy grade classification in multiple joints** [Paper] [Slides] [Code]
  Developed a hierarchical continual learning framework for arthropathy grade classification scalable across multiple joints.
- **Robust medical image classification against data contamination and poisoning** [Slides]
  Mutually trained two networks to learn a shared representation space anchored by a fixed equiangular tight frame (ETF) classifier.
- **Statistical feature-based memory-efficient machine learning pipeline for fake image detection** [Slides]
  Designed a fake image detection ML pipeline with higher accuracy but lower memory usage than CNN-based approaches.

Visiting Scholar, **School of Computer Science**, **Carnegie Mellon University**, Pittsburgh, PA   *Aug. 2024 - Feb. 2025*
- **Exploring joint training in the context of few-shot class-incremental learning (FSCIL)** [Paper] [Poster] [Video] [Code]
  Conducted a resource-aware comparison of joint training and FSCIL to assess the impact of full data access on performance.
- **AI on the edge with robotics: AI-driven automated real-time target prioritization and engagement** [Slides]
  Implemented a tracking algorithm using fine-tuned YOLOv11s and deployed it on Jetson Orin Nano for target engagement demo.

LEADERSHIP AND ACTIVITIES

- **Yonsei University Ski Team**, Seoul/Pyeongchang, South Korea   *Mar. 2017 - Present*
  Alumni Executive Member since 2023, *Team Captain* in 2020-21, *Team Training Lead* in 2019-20 & 2021-22
- **Information System SIG of Undergraduate (ISSU)**, **Yonsei University**, Seoul, South Korea   *Mar. 2021 - Dec. 2021*
  Vice President in Summer & Fall 2021 (Jul. 2021 - Dec. 2021)
- **University of Washington Husky Ski Team**, Seattle, PA   *Sep. 2018 - Jun. 2019*
- **Yonsei University × Claremont McKenna College (CMC) Summer Leadership Program**, Seoul/Singapore   *Jul. 2018 - Aug. 2018*
  Collaborated with 10 native English-speaking CMC students on a business project and Singapore networking trip.

LANGUAGE AND SKILLS

- **Language**: Korean (Native), English (Fluent)
- **Programming & Tools**: Python / PyTorch / Scikit-learn / Git (Advanced), C++ / R (Basic)