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EXPERIENCE

Managing Director, AI Group

MedicalAI

2021.03 - Present

Seoul, Republic of Korea

Manager, Data R&D Team

Lifeseantics

2020.09 - 2021.03

Seoul, Republic of Korea

Researcher, HealthCare AI Team

National Cancer Center

2018.03 - 2020.09

Seoul, Republic of Korea

Visiting Scholar

Baylor University

2016.08 - 2016.09

Texas, United States

EDUCATION

Hanyang University

Ph.D. | Department of Computer and Software

Advisor: Prof. Sang-Wook Kim

2013.03–2018.02

Seoul, Republic of Korea

Hanyang University

M.S. | Department of Electronics Computer Engineering

2011.03–2013.02

Seoul, Republic of Korea

Hanyang University

B.S. | Department of Computer Engineering

2007.03–2011.02

Seoul, Republic of Korea

PROFESSIONAL SERVICE

- **2026:** AAAI, TheWebConf, KDD
- **2025:** ICASSP, IJCNN, NeurIPS, KDD, CHIL, ICML, ICLR, AAAI, ML4H
- **2024:** AAAI, NeurIPS
- **2023:** ICASSP

PUBLICATIONS

Min Sung Lee, Jong-Hwan Jang, Sora Kang, Ga In Han, Ah-Hyun Yoo, **Yong-Yeon Jo**, Jeong Min Son, Joon-myung Kwon, Sooyeon Lee, Ji Sung Lee, Hak Seung Lee, Kyung-Hee Kim, “Transparent and robust Artificial intelligence-driven Electrocardiogram model for Left Ventricular Systolic Dysfunction”, *Diagnostics*, Vol 15. No. 15, 2025, 2025.

Jong-Hwan Jang, **Yong-Yeon Jo**, Sora Kang, Jeong Min Son, Hak Seung Lee, Joon-myung Kwon, Min Sung Lee, “A novel XAI framework for explainable AI-ECG using generative counterfactual XAI (GCX)”, *Scientific Reports*, Vol 15. No. 1, 2025, 2025.

Jaeho Park, TaeJun Park, Joon-myung Kwon, **Yong-Yeon Jo**, “Benchmarking ECG Delineation using Deep Neural Network-based Semantic Segmentation Models”, *Proceedings of the sixth Conference on Health, Inference, and Learning*, PMLR 287, 2025, 2025.

Yong-Yeon Jo, Byeong Tak Lee, Jeong-Ho Hong, Hak Seung Lee, Joon-myung Kwon, Beom Joon Kim, “Test-Time Calibration: A Framework for Personalized Test-Time Adaptation in Real-World Biosignals”, *Proceedings of the sixth Conference on Health, Inference, and Learning*, PMLR 287, 2025, 2025.

Byeong Tak Lee, **Yong-Yeon Jo**, Joon-Myoung Kwon, “Unveiling the secrets of neural network scaling for ECG classification”, *Informatics in Medicine Unlocked*, Vol 55., 2025, 2025.

Hak Seung Lee, Sora Kang, **Yong-Yeon Jo**, Jeong Min Son, Min Sung Lee, Joon-myung Kwon, Kyung-Hee Kim, “AI-Enabled Smartwatch ECG: A Feasibility Study for Early Prediction and Prevention of Heart Failure Rehospitalization”, *JACC: Basic to Translational Science*, In Press, Corrected Proof, 2025, 2025.

Yong-Yeon Jo, Byeong Tak Lee, Beom Joon Kim, Jeong-Ho Hong, Hak Seung Lee, Joon-myung Kwon, “New Test-Time Scenario for Biosignal: Concept and Its Approach”, *Findings paper presented at Machine Learning for Health (ML4H)*, arXiv:2411.17785, 2024, 2024.

Ki-Hyun Jeon, Hak Seung Lee, Sora Kang, Jong-Hwan Jang, **Yong-Yeon Jo**, Jeong Min Son, Min Sung Lee, Joon-myoungh Kwon, Ju-Seung Kwun, Hyoung-Won Cho, Si-Hyuck Kang, Wonjae Lee, Chang-Hwan Yoon, Jung-Won Suh, Tae-Jin Youn, In-Ho Chae, “AI-enabled ECG index for predicting left ventricular dysfunction in patients with ST-segment elevation myocardial infarction”, *Scientific Reports*, Vol 14. No. 1, 2024, 2024.

Junho Song, Jong-Hwan Jang, Byeong Tak Lee, DongGyun Hong, Joon-myoungh Kwon, **Yong-Yeon Jo**, “Foundation Models for Electrocardiograms”, *arXiv preprint*, arXiv:2407.0711, 2024, 2024.

Byeong Tak Lee, Joon-myoungh Kwon, **Yong-Yeon Jo**, “TADA: Temporal Adversarial Data Augmentation for Time Series Data”, *arXiv preprint*, arXiv:2407.15174, 2024, 2024.

Ki-Hyun Jeon, Jong-Hwan Jang, Sora Kang, Hak Seung Lee, Min Sung Lee, Jeong Min Son, **Yong-Yeon Jo**, Tae Jun Park, Il-Young Oh, Joon-myoungh Kwon, Ji Hyun Lee, “Identifying atrial fibrillation with sinus rhythm electrocardiogram in embolic stroke of undetermined source: a validation study with insertable cardiac monitors”, *Korean Circulation Journal*, Vol 53. No. 11, 2023, 2023.

Yong-Yeon Jo, Young Sang Choi, Jong-Hwan Jang, Joon-Myoungh Kwon, “ECGT2T: Towards Synthesizing Twelve-Lead Electrocardiograms from Two Asynchronous Leads”, *Proceedings of the IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP)*, 2023, 2023.

Byeong Tak Lee, Joon-myoungh Kwon, **Yong-Yeon Jo**, “Can Knowledge Distillation Really Transfer Inductive Bias?”, *Proceeding of the Applied Machine Learning Methods for Time Series Forecasting (AMLTS)*, 2022, 2022.

Byeong Tak Lee, Seon-Yu Lim, Youngjae Song, Joon-myoungh Kwon, **Yong-Yeon Jo**, “Efficient Data Augmentation Policy for Electrocardiograms”, *Proceeding of the International Conference on Information and Knowledge Management (ACM CIKM)*, 2022, 2022.

Yong-Yeon Jo, Myung-Hwan Jang, Sunju Park, Sang-Wook Kim, “A Data Layout with Good Data Locality for Single-Machine based Graph Engines”, *IEEE Transactions on Computers*, Vol. 71 No. 8, 2022, 2022.

Yeji Lee, Byungjin Choi, Min Sung Lee, Uram Jin, Seokyoung Yoon, **Yong-Yeon Jo**, Joon-myoungh Kwon, “An artificial intelligence electrocardiogram analysis for detecting cardiomyopathy in the peripartum period”, *International Journal of Cardiology*, Vol. 352, 2022, 2022.

Joon-myoungh Kwon, Yong-Yeon Jo*, Soo Youn Lee, Seonmi Kang, Seon-Yu Lim, Min Sung Lee, Kyung-Hee Kim, “Artificial Intelligence-Enhanced Smartwatch ECG for Heart Failure-Reduced Ejection Fraction Detection by Generating 12-Lead ECG”, *Diagnostics*, Vol. 12 No. 3, 2022, 2022.

Yoonsuk Kang, **Yong-Yeon Jo**, Jaehyuk Cha, Wan D. Bae, Sang-Wook Kim, “FORESEE: An Effective Efficient Framework for Estimating the Execution Times of IO Traces on the SSD”, *IEEE Transactions on Computers*, Vol 70. No. 12, 2021, 2021.

Joon-myoungh Kwon, Ye Rang Lee, Min-Seung Jung, Yoon-Ji Lee, **Yong-Yeon Jo**, Da-Young Kang, Soo Youn Lee, Yong-Hyeon Cho, Jae-Hyun Shin, Jang-Hyeon Ban, Kyung-Hee Kim, “Deep learning model for screening sepsis using electrocardiography”, *Scandinavian Journal of Trauma, Resuscitation and Emergency Medicine*, open access, 2021, 2021.

Myung-Hwan Jang, **Yong-Yeon Jo**, Sang-Wook Kim, “RealGraph-Web: A Graph Analysis Platform on the Web”, *Proceeding of International Conference on Very Large Data Bases (VLDB), Demonstration Track*, 2021, 2021.

Joon-myoungh Kwon, **Yong-Yeon Jo**, Soo Youn Lee, Kyung-Hee Kim, “Artificial intelligence using electrocardiography: Strengths and pitfalls”, *European Heart Journal*, Vol 42. No 30, 2021, 2021.

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Yong-Yeon Jo, Joon-myoungh Kwon, Ki-Hyun Jeon, Yong-Hyeon Cho, Jae-Hyun Shin, Yoon-Ji Lee, Min-Seung Jung, Jang-Hyeon Ban, Kyung-Hee Kim, Soo Youn Lee, Jinsik Park, Byung-Hee Oh, “Artificial intelligence to diagnose paroxysmal supraventricular tachycardia using electrocardiography during normal sinus rhythm”, *European Heart Journal - Digital Health*, Vol 2. No 2., 2021, 2021.

Yong-Yeon Jo, Younghoon Cho, Soo YounLee, Joon-myoungh Kwon, Kyung-Hee Kim, Ki-Hyun Jeon, Soohyun Cho, Jinsik Park, Byung-Hee Oh, “Explainable artificial intelligence to detect atrial fibrillation using electrocardiogram”, *International Journal of Cardiology*, Vol. 328, 2021, 2021.

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Joon-myoung Kwon, Min-Seung Jung, Kyung-Hee Kim, **Yong-Yeon Jo**, Jae-Hyun Shin, Yong-Hyeon Cho, Yoon-Ji Lee, Jang-Hyeon Ban, Ki-Hyun Jeon, Soo Youn Lee, Jinsik Park, Byung-Hee Oh, “Artificial intelligence for detecting electrolyte imbalance using electrocardiography”, *Annals of Noninvasive Electrocardiology*, Vol 26. No. 3, 2021, 2021.

Yong-Yeon Jo, Jai Hong Han, Hyun Woo Park, Hyojung Jung, Jaedong Lee, Jipmin Jung, Hyo Soung Cha, Dae Kyung Sohn, Yul Hwangbo, “Prediction of the prolonged length of hospital stay after cancer surgery using the machine learning on electronic health records: Retrospective cross-sectional study”, *Journal of Medical Internet Research Medical Informatics*, Vol. 9 No. 2, 2021, 2021.

Yong-Yeon Jo, Jong-Hwan Jang, Joon-Myoung Kwon, Hyung-Chul Lee, Chul-Woo Jung, Seonjeong Byun, Han-Gil Jeong, “Predicting Intraoperative Hypotension Using Deep Learning with Waveforms of Arterial Blood Pressure, Electroencephalogram, and Electrocardiogram”, *PlosOne*, open access, 2021, 2021.

Joon-myoung Kwon, Soo Youn Lee, Yoon-Ji Lee, **Yong-Yeon Jo**, Min-Seung Jung, Yong-Hyeon Cho, Jae-Hyun Shin, Jang-Hyeon Ban, Kyung-Hee Kim, Jinsik Park, Byung-Hee Oh, “Deep learning model for detection of hypoalbuminemia using electrocardiography”, *Preprints*, preprints202101.0408.v1, 2021, 2021.

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Myung-Hwan Jang, **Yong-Yeon Jo**, Sang-Wook Kim, “Graph-based recommendation on single-machine based graph engines: a performance study”, *Proceeding of the International Conference on Fuzzy Theory and Its Applications (iFUZZY)*, 2018, 2018.

Yong-Yeon Jo, Myung-Hwan Jang, Sang-Wook Kim, Kyungsik Han, “Efficient processing of recommendation algorithms on a single-machine-based graph engine”, *Journal of Supercomputing*, Vol. 76, 2018, 2018.

Yong-Yeon Jo, Myung-Hwan Jang, Hyungsoo Jung, Sang-Wook Kim, “A high-performance graph engine for efficient social network analysis”, *Proceeding of the World Wide Web (WWW) Conference*, 2018, 2018.

Yong-Yeon Jo, Kyuhwan Lee, Myung-Hwan Jang, Sang-Wook Kim, Eunjee Song, “Efficient processing of large-scale sparse matrix-matrix multiplications on a single machine”, *Proceeding of the IEEE International Conference on Systems, MAN, and Cybernetics Society (IEEE SMC)*, 2017, 2017.

Yoonsuk Kang, **Yong-Yeon Jo**, Jaehyuk Cha, Wan D. Bae, Sang-Wook Kim, “FORESEE: a framework for effective and efficient estimation of the execution time of an IO trace on the SSD”, *Proceeding of the International Conference on Information and Knowledge Management (ACM CIKM)*, 2017, 2017.

Yong-Yeon Jo, Myung-Hwan Jang, Sang-Wook Kim, “Efficient processing of alternating least squares on a single machine”, *Proceeding of the International Conference on Emerging Database (EDB)*, 2017, 2017.

Yong-Yeon Jo, Sang-Wook Kim, Sung-Woo Cho, Duck-Ho Bae, Hyunok Oh, “High-performance data mining with intelligent SSD”, *Journal of Cluster Computing*, Vol. 20 No. 2, 2017, 2017.

Yong-Yeon Jo, Jiwon Hong, Myung-Hwan Jang, Jae-Geun Bang, Sang-Wook Kim, “Data locality in graph engines: implications and preliminary experimental results”, *Proceeding of the International Conference on Information and Knowledge Management (ACM CIKM)*, 2016, 2016.

Yoonsuk Kang, **Yong-Yeon Jo**, Jaehhyuk Cha, Sang-Wook Kim, Young Kyun Shin, “The uFLIP benchmark revisited for evaluating SSDs”, *Journal of Communication Systems*, Vol. 29, 2016, 2016.

Duck-Ho Bae, Jin-Hyung Kim, **Yong-Yeon Jo**, Sang-Wook Kim, Hyunok Oh, Chanik Park, “Intelligent SSD: a turbo for big data mining”, *Computer Science and Information Systems*, Vol. 13 No. 2, 2016, 2016.

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Yong-Yeon Jo, SungWoo Cho, Sang-Wook Kim, Duck-Ho Bae, Hyunok Oh, “On running data-Intensive algorithms with intelligent SSD and host CPU: a collaborative approach”, *Proceeding of the International Conference on ACM/SIGAPP Symposium on Applied Computing (ACM SAC)*, 2015, 2015.

Yong-Yeon Jo, Sang-Wook Kim, Duck-Ho Bae, “GPU-based matrix multiplication methods for social networks analysis”, *Proceeding of the International Conference on Research in Adaptive and Convergent Systems (ACM RACS)*, 2014, 2014.

Yoonsuk Kang, **Yong-Yeon Jo**, Jaehyuk Cha, Sang-Wook Kim, Young Kyun Shin, “Exploiting the uFLIP benchmark for analyzing SSDs performance”, *Proceeding of the International Conference on Network Infrastructure and Digital Content (IEEE IC-NIDC)*, 2014, 2014.

Yoonsuk Kang, **Yong-Yeon Jo**, Duck-Ho Bae, Sang-Wook Kim, “Running data mining algorithms on SSDs”, *Proceeding of the International Conference on Emerging Databases-Technologies, Applications, and Theory (EDB)*, 2013, 2013.

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조용연, 정민영, 황보욱, “전자의무기록 데이터에서의 적대적 생성 알고리즘 기반 결측값 대체 알고리즘 성능분석”, 한국정보처리학회 추계학술발표대회, 2019, 2019.

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강운석, 조용연, 김상욱, “SSD 성능에 영향을 주는 특징 분석 방법”, 한국정보처리학회 춘계학술발표대회, 2018, 2018.

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장명환, 조용연, 김상욱, “그래프 기반 추천 알고리즘의 효율적인 수행”, 한국지능시스템학회 춘계학술대회, 2018, 2018.

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강운석, 조용연, 차재혁, 배한덕, 김상욱, “SSD를 위한 IO 트레이스 수행시간 예측 방안”, 한국컴퓨터종합학술대회, 2017, 2017.

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조용연, 장명환, 김상욱, “실 세계 빅 그래프의 특징을 고려한 싱글 머신 기반 그래프 엔진”, 한국컴퓨터종합학술대회, 2017, 2017.

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조용연, 김상욱, 배덕호, “효율적인 빅 데이터 마이닝을 위한 iSSD 기반 협업 처리 방안”, 한국통신학회논문지, Vol. 42, No. 02, 2017, 2017.

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이현진, 조용연, 김상욱, “FlashGraph에서 너비우선탍색 알고리즘의 성능 개선 방안”, 정보처리학회 춘계학술발표대회, 2016, 2016.

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정문준, 조용연, 김상욱, 오현욱, “시뮬레이터 기반 iSSD에서 데이터 마이닝 알고리즘 성능 평가”, 정보처리학회 추계학술발표대회, 2015, 2015.

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장명환, 조용연, 김상욱, “GraphChi기반의 두 희소 행렬 곱셈”, 한국컴퓨터종합학술대회, 2015, 2015.

60

이그환, 조용연, 김상욱, “복합 I/O 트레이스 시뮬레이션에 대한 분석”, 한국컴퓨터종합학술대회, 2015, 2015.

61

진동규, 조성우, 조용연, 김상욱, 오현욱, “스케줄링 알고리즘에 따른 협업 시스템의 성능 분석”, 정보처리학회 추계학술발표대회, 2014, 2014.

62

권인택, 조용연, 김상욱, “빅 데이터를 위한 행렬 곱셈의 성능 분석”, 정보처리학회 추계학술발표대회, 2014, 2014.

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이인혁, 이규환, 강운석, 조용연, 김상욱, “SSD 성능 비교를 위한 I/O 트레이스 리플레이어 분석”, 정보처리학회 추계학술발표대회, 2014, 2014.

64

정승훈, 이재성, 강운석, 조용연, 배덕호, 김상욱, 강주영, 차재혁, “OLTP환경에서 SSD의 성능 분석”, 한국정보과학회 추계학술발표대회, 2013, 2013.

65

조성우, 조용연, 배덕호, 김상욱, 오현욱, “Intelligent SSD에서 이직 스케줄링 알고리즘 적용을 통한 프로그램 성능 향상 방안”, 한국정보과학회 추계학술발표대회, 2013, 2013.

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조용연, 배덕호, 김상욱, “GPU 기반의 워크를 통한 두 희소행렬 곱셈방안”, 한국정보과학회논문지, Vol. 19, No. 10, 2013, 2013.

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