INHA UNIVERSITY
AI Convergence Research Center · Graduate School
aix.inha.ac.kr

INHA UNIVERSITY
AI Convergence Research Center·Graduate School

INHA UNIVERSITY
AI Convergence Research Center
AI Graduate School

CONTENTS

Director's Profile

Director, **In Kyu Park**

PROFILE

- Ph.D. in Engineering, Seoul National University
- Professor, School of Electrical and Electronic Engineering, Inha University (2004 ~ Present)
- Visiting Scholar, UCSD (2018~2019)
- Visiting Associate Professor, MIT Media Lab (2014~2015)
- Researcher, Mitsubishi Electric Research Laboratories (2007~2008)
- Member of Technical Staff, Samsung Advanced Institute of Technology (2001~2004)
- Research Areas: Computer Vision, Graphics, Deep Learning
- Website: http://image.inha.ac.kr

Message from the Director

AI Innovation Hub Driving Incheon's Industry Growth

The AI Convergence Research Center at Inha University was established in April 2020 after being selected for the Ministry of Science and ICT's AI Convergence Research Center program. Following its selection for the AI Convergence Innovation Graduate School Program in May 2022 and the Leading Generative AI Human Resources Development Program in April 2024, the Center now operates both as a convergence research center and as an innovation-driven graduate school.

We are the first specialized center in Incheon for AI research and education. Our center integrates AI with key regional industries, such as manufacturing, logistics, ports, and healthcare, to develop AI-converged talent and industry-academia collaboration. In collaboration with 61 partners, including Incheon Metropolitan City and Korean Air, we are advancing industry-academia-government cooperation to drive industrial innovation and disseminate AI technologies.

The Graduate School of AI Convergence at the center operates the AI program within the Department of Electrical and Computer Engineering, systematically producing around 50 AI specialists with master's and doctoral degrees each year. Our 27 faculty members provide high-quality instruction across 20+ core-AI courses, from foundational to advanced topics, and 40 specialized AI convergence tracks in areas like manufacturing, logistics, ports, and medical.

AI Convergence Research Center leverages Incheon's industrial strengths and Inha University's expertise to develop AI-converged talent and promote AI. We are committed to creating a platform linking local governments, industries, and universities for AI convergence research, driving regional industry growth as well as nationwide AI adoption.

Professor **In Kyu Park**,
Director of the AI Convergence Research Center
(Dept. of Electrical and Computer Engineering)

Vision and Strategic Plan

VISION

AI-Converged Talent and Technology Dissemination Hub

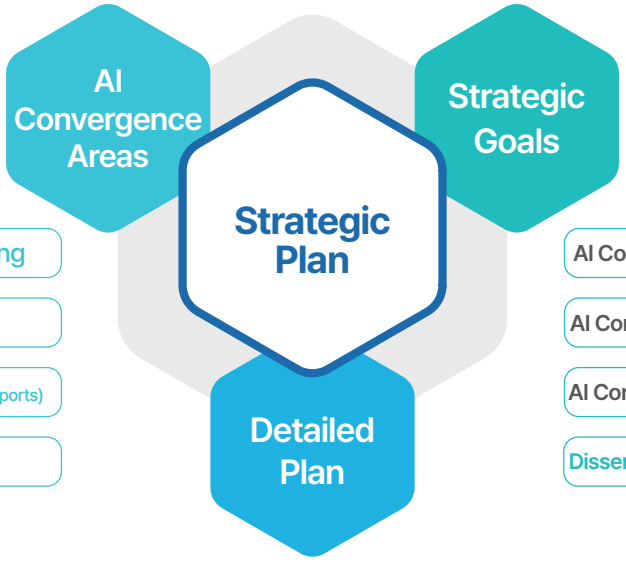
– BRIDGE – Model for Convergence Research Center and Graduate School –

MISSION

Develop specialized talent for the innovative AI-convergence industry

Build Reinforced Industry by Developing AI-Generating Engineers

- Regional hub convergence research center that connects universities and industries to develop AI talents and technology dissemination
- Train talents specialized in industrial innovation and enhance the competitiveness of industries
- Academy-Industry Twin: Advancing industry-academia collaboration for enhanced talent development



- AI BRIDGE to Manufacturing
- AI BRIDGE to Logistics
- AI BRIDGE to Ports(Airports/Seaports)
- AI BRIDGE to Medical

- AI Convergence Specialized Research
- AI Convergence Specialized Education
- AI Convergence Industry Collaboration
- Disseminate and Share AI Convergence

Scalable Big Data Sharing Platform	Industry-Academia Convergence Active Learning Platform	Sustainable Industry-Academia AI Convergence Platform	Scalable and shareable AI Convergence infrastructure
• AI+Perception Visual Perception Research • AI+Logistics Spatiotemporal Intelligence Research • AI+Prediction Time Series Forecasting Research • AI+Diagnosis Medical Data Analysis and Prediction Research	• AI major programs training 50 master's and doctoral students annually • Training industry-AI specialized talent • Connecting curriculum with the Graduate School of Manufacturing and Logistics	• Promoting collaboration with local companies • Operating industry-academia joint projects and creating workbooks • Enhancing two-way exchanges through internships, employment, and extracurricular activities School of Manufacturing and Logistics	• Establishing AI infrastructure and sharing with the local community • Disseminate AI across various disciplines within the university • Tailored AI education programs for industry professionals

Platforms-Based Research, Education, and Industry-Academia Collaboration

- Big Data Sharing Platform : Development of data processing and integration technologies
- Industry-Academia AI Convergence Platform : AI Convergence Projects Course
- Active Learning Platform: Fostering AI Convergence experts aligned with A^5 I : Active, Achievable, Adaptive, Affordable AI

Introduction to the AI Convergence Research Center

What is the AI Convergence Research Center?

Mission and Goals of the AI Convergence Research Center

The AI Convergence Research Center at Inha University aims to foster creative, multidisciplinary talent by integrating AI into diverse industries, including manufacturing, logistics, ports, and healthcare (AI+X), through converged research and education.

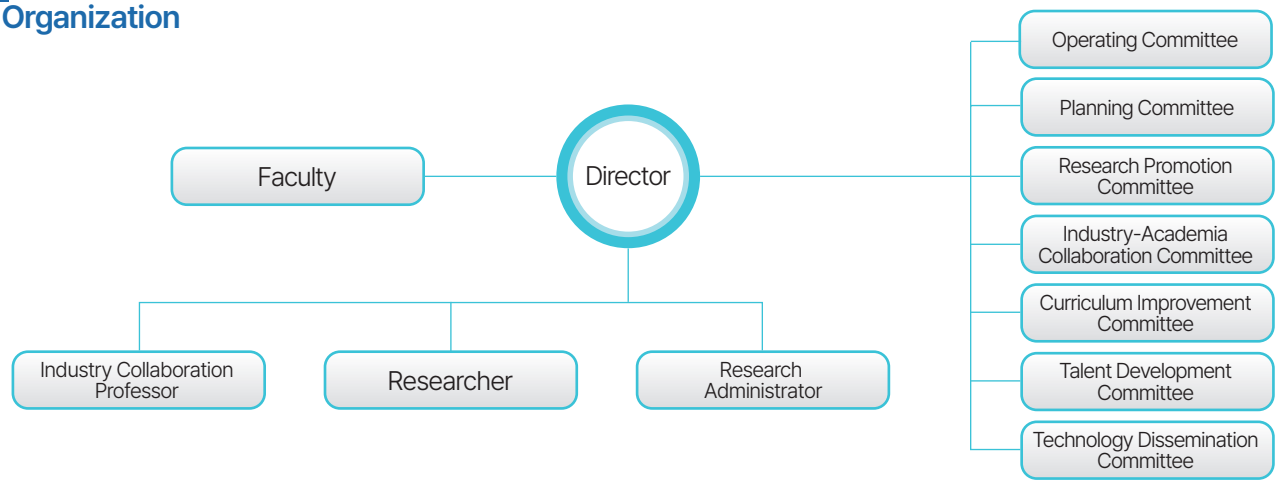
Role of the AI Convergence Research Center

- **Enhancing AI Convergence Research**
  Enhance "creative convergence (AI+X) research" tailored to industry specialization
- **Operating Curricula in AI Convergence**
  AI convergence curricula with a focus on project-based, problem-solving education
- **Strengthening Industry-Academia Collaboration**
  Strengthen AI convergence collaboration by securing top researchers and addressing industry needs
- **Supporting Commercialization and Consulting**
  Strengthen 'Creative Convergence Capabilities' by providing AI technology commercialization and application consulting, as well as internship programs, to meet the diverse AI needs across industries

History

Apr 2020	Selected for Ministry of Science and ICT's AI Convergence Research Center Support Program
May 2020	Signed an agreement with the IITP and launched operations
Sep 2020	Established AI Major in the Graduate School's Dept. of Electrical and Computer Engineering and AI Convergence Major in the College of Engineering at Inha University
Jan 2021	Built the Center's administrative office, PBL classroom, and server room
Apr 2021	Held the opening ceremony for the AI Convergence Research Center
May 2022	Selected for the Ministry of Science and ICT's AI Convergence Innovation Graduate School Program
Apr 2024	Selected for the Ministry of Science and ICT's Leading Generative AI Human Resources Development Program
May 2025	Hosted an international symposium marking the Center's 5th anniversary

Organization



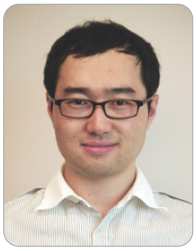
Faculty and Research Staff

Faculty

AI-Core Faculty

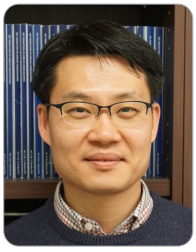
Doguk Kim
Assistant Professor, Dept. of Artificial Intelligence

Ph.D., Korea Advanced Institute of Science and Technology
Research Interests: Machine Learning/Deep Learning Automation, Efficient Deep Learning, Computer Vision, Natural Language Processing
http://sites.google.com/view/inha-aif-lab



Youngsung Kim
Assistant Professor, Dept. of Artificial Intelligence

Ph.D., Yonsei University
Research Interests: Machine Learning, Deep Learning, Multimodal AI
http://youngsungkim-ai.github.io



Daeyoung Park
Professor, School of Electrical and Electronic Engineering

Ph.D., Seoul National University
Research Interests: Machine Learning, Signal Processing
http://spml.inha.ac.kr

Seung-Hwan Bae
Associate Professor, Dept. of Computer Science and Engineering

Ph.D.,Gwangju Institute of Science and Technology
Research Interests: Computer Vision, Machine Learning
http://cvl.inha.ac.kr

Byung Cheol Song
Professor, School of Electrical and Electronic Engineering

Ph.D., Korea Advanced Institute of Science and Technology
Research Interests: Computer Vision, Image Processing, Deep Learning
http://cvip.inha.ac.kr

Byung Hyung Kim
Assistant Professor, Dept. of Artificial Intelligence

Ph.D., Korea Advanced Institute of Science and Technology
Research Interests: Affective Computing, Brain-Computer Interface, Machine Learning
http://affctiv.ai

Yeongjin Kim
Assistant Professor, School of Electrical and Electronic Engineering

Ph.D., Korea Advanced Institute of Science and Technology
Research Interests: Intelligence Cloud, Edge Computing
http://sites.google.com/view/yeongjinkim

In Kyu Park
Professor, School of Electrical and Electronic Engineering

Ph.D., Seoul National University
Research Interests: Computer Vision, Image Processing, Deep Learning
http://image.inha.ac.kr

Young-Duk Seo
Assistant Professor, Dept. of Computer Science and Engineering

Ph.D., Korea University
Research Interests: Recommender systems, Data Mining
http://kdd.inha.ac.kr

Byung-Seok Shin
Professor, Dept. of Computer Science and Engineering

Ph.D., Seoul National University
Research Interests: Computer Graphics, 3D Medical Visualization
http://medialab.inha.ac.kr

AI-Core Faculty

Jeong Seop Sim
Professor, Dept. of Computer Science and Engineering

Ph.D., Seoul National University
Research Interests: Algorithms, Bioinformatics
http://theory.inha.ac.kr

Mun-Kyu Lee
Professor, Dept. of Computer Science and Engineering

Ph.D., Seoul National University
Research Interests: Information Security & Cryptology, Block Chain, AI Security
http://islab.inha.ac.kr

Sangseon Lee
Assistant Professor, Dept. of Artificial Intelligence

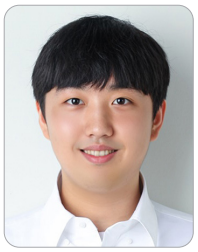
Ph.D., Seoul National University
Research Interests: Bio & Health Informatics, Pharmaco-Informatics, Graph Deep Learning
http://bic-leelab.com

Sunwoo Lee
Assistant Professor, Dept. of Computer Science and Engineering

Ph.D., Northwestern University
Research Interests: Scalable Machine Learning, Distributed Deep Learning, Federated Learning
http://sites.google.com/view/lmls-lab

Pilhyeon Lee
Assistant Professor, Dept. of Artificial Intelligence

Ph.D., Yonsei University
Research Interests: Multimodal AI, Deep Learning, Computer Vision, Video Understanding
http://sites.google.com/view/mailab-inha



Namhyuk Ahn
Assistant Professor, School of Electrical and Electronic Engineering

Ph.D., Ajou University
Research Interests: Computer Vision, Generative AI
http://gcl.inha.ac.kr

Bowon Lee
Professor, School of Electrical and Electronic Engineering

Ph.D., University of Illinois Urbana-Champaign
Research Interests: Audio, Speech Processing, Speech Understanding
http://dsp.inha.ac.kr

Sang-Chul Lee
Professor, Dept. of Computer Science and Engineering

Ph.D., University of Illinois Urbana-Champaign
Research Interests: Biomedical Image Processing, Computer Vision, AI
http://imageinfo.inha.ac.kr

Yongwoo Lee
Assistant Professor, School of Electrical and Electronic Engineering

Ph.D., Seoul National University
Research Interests: Cryptography, Privacy Protection
http://crypto.inha.ac.kr

Hongki Lim
Assistant Professor, School of Electrical and Electronic Engineering

Ph.D., University of Michigan
Research Interests: Generative Model, Image Processing
https://milab-inha.github.io

AI-Core Faculty

Dong-Wan Choi

Associate Professor, Dept. of Computer Science and Engineering

Ph.D., Korea Advanced Institute of Science and Technology
Research Interests: Big Data, Data Mining
http://bigdata.inha.ac.kr

Wonik Choi

Professor, School of Electrical and Electronic Engineering

Ph.D., Seoul National University
Research Interests: Data Intelligence, Big Data, AI
http://dilab.inha.ac.kr

AI-Convergence Affiliated Faculty

Jong-Hyun Kim

Associate Professor, Dept. of Design Technology

Ph.D., Korea University
Research Interests: Physically-based Simulation, Game AI, Geometry Processing, Digital Twin
https://sites.google.com/view/jhkim

Daisik Nam

Assistant Professor, Asia Pacific School of Logistics

Ph.D., University of California, Irvine
Research Interests: Smart Mobility, Digital Logistics, Transportation
http://pytrans.github.io

Minyoung Park

Professor, Asia Pacific School of Logistics

Ph.D., University of California, Irvine
Research Interests: Logistics System
http://gsl.inha.ac.kr

Seung-Buhm Woo

Professor, Dept. Ocean Sciences

Ph.D., Cornell University
Research Interests: Coastal and Port Engineering, Environmental Hydraulics
http://codalweb.wixsite.com/mysite

Hyun-Gyu lee

Assistant Professor, College of Medicine

Ph.D., Inha University
Research Interests: Medical AI
http://hglee6.wixsite.com/inha-mai

Industry Collaboration Professor/Researcher

Industry Collaboration Professor

Byeonghwan Jeon

Ph.D., Seoul National University
AI + Manufacturing Industry-Academia Collaboration
Previous Position: Master, Device Solutions, Samsung Electronics

Yan Li

Ph.D., Inha University
Curriculum Development Aligned with Industry-Academia Needs
Current Position: Teaching Professor, Dept. of Computer Engineering, Inha University

Jong Wook Kim

Ph.D., Inha University
Research on spreading AI in the field of portal

Researcher

Byungho Jo

M.S., Inha University
Research and Development of AI Infrastructure and Educational Platforms

Chaewook Lim

Ph.D., Inha University
Research on spreading AI in the field of portal

Collaborative Partners

Institutions (6)

인천광역시 · 한국산업단지공단 인천남동스마트그린산단사업단 · 인천스마트시티 INCHEON SMART-CITY CORPORATION · 인천항만공사 INCHEON PORT AUTHORITY · ITP 인천테크노파크 INCHEON TECHNOPARK · 항공우주산학융합원 Institute for Aerospace Industry-Academia Collaboration

Companies (55)

Continental · DeepCardio We Score Your Heart · WTA · 주식회사 SLX · UST21 · DANUSYS · KOREAN AIR · NAVER · DIFINE · DEEPING SOURCE · ROVIGOS · REALTEK · MESH KOREA · Mondrian AI · BARO · VUNO · BIT 비트컴퓨터 · SAPEON · SNCT · Saltlux · suprema · CUBOX · aws · ASETEC · ASEEN 아신 · ONTRobot · OSSTEM IMPLANT · AUTOMES INNOVATION · AUTOMES TELSTAR · AUTOMATION ANYWHERE · YUJIN ROBOT · kakaomobility · Canon CANON MEDICAL SYSTEMS KOREA · TES · KTNET 한국무역정보통신 · HJIT · 한진정보통신 · Channel · (주)H&T SOLUTION · ORACLE · HANJIN · NEWCON · vatech · vtov · core:line · FOCUS H&S · willog · 유로지스넷(주) ULOGISNET Co.,LTD. · 조양국제종합물류(주) · BIOBRAIN We Dream Your Dream! · PSA INCHEON · doAI · 42MARU · EMT www.emtomega.com · QueryPie · EOST

AI Convergence Graduate School

Educational Goals and Initiatives

- Cultivating AI convergence experts through an industry-academia AI sharing and dissemination platform
- Cultivating AI convergence experts through a scalable big data integration platform

Educational Goals	- Cultivating AI convergence experts through an industry-academia AI sharing and dissemination platform - Cultivating AI convergence experts through a scalable big data integration platform
Development Model	Developing innovative AI convergence talent specialized in manufacturing, logistics, ports (airports/seaports), and medical industries

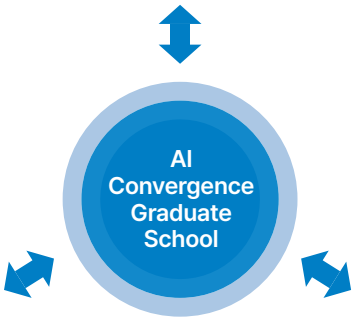
Initiatives for AI+X Convergence Talent Development

Graduate Degree Program	Dedicated to the Admission of Exceptional Students	Industry-Academia Joint Project	Entrepreneurship Program
AI Major in the Dept. of Electrical and Computer Engineering	Tuition Support and Employment Opportunities for the Admission of Outstanding Students	Curriculum on AI+R/L/P/D Convergence Industry-Academia Projects	Entrepreneurship Education for Innovative Value Creation
AI Convergence Major at the College of Engineering	Admission of Outstanding Students from Diverse Backgrounds	Training Field-Ready Talent by Integrating AI with Traditional Industries	Sharing Startup Expertise through Collaboration with Partner Companies

Graduate Program Overview

Innovative Industry-Focused AI Convergence Curricula

Specialized Integrated Education for Incheon's Key Industries:
Manufacturing, **L**ogistics, **P**orts (Airport/Seaport), and **M**edical
Field-oriented curriculum and textbooks to meet the needs of participating companies



AI Major in the Department of Electrical and Computer Engineering

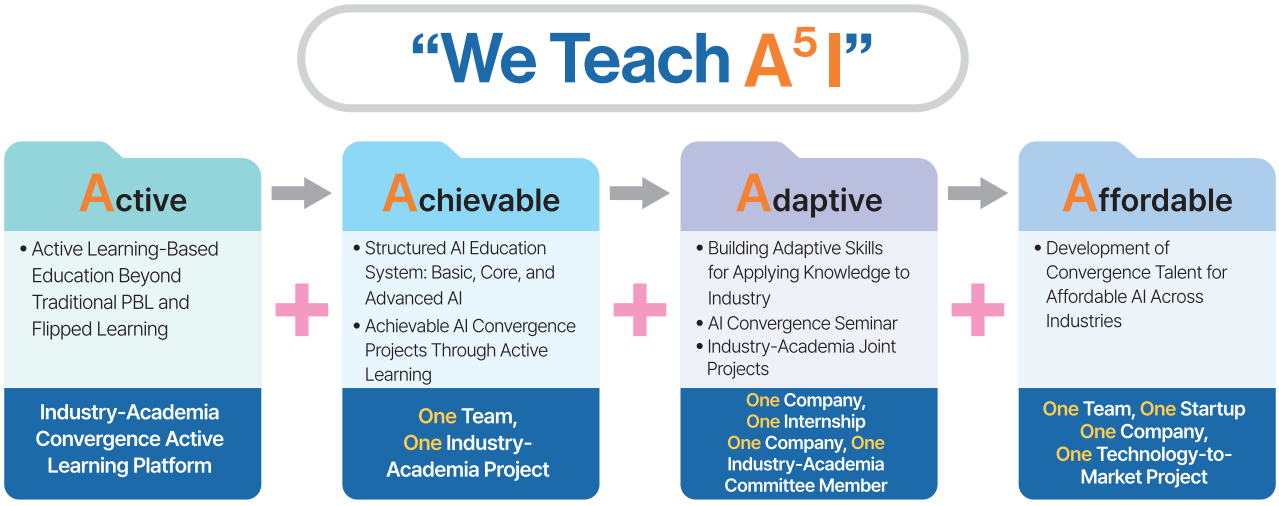
- Graduate Program for Training Advanced Talent (Master's and Ph.D. programs)
- Annual Admission Quota: 50 Students
- Developing Problem-Solving Skills for Industry Needs through an AI+X Convergence Curriculum
- Full Tuition Support and Prioritized Dormitory Allocation

AI Convergence Major at the College of Engineering

- Specialized AI Convergence Master's Program for Working Professionals
- Annual Admission Quota: 30 Students
- Up to 50% Tuition Support (Funded by the University)
- Disseminating AI Convergence through Practical, Specialized Education for Working Professionals in Key Fields

Education Model

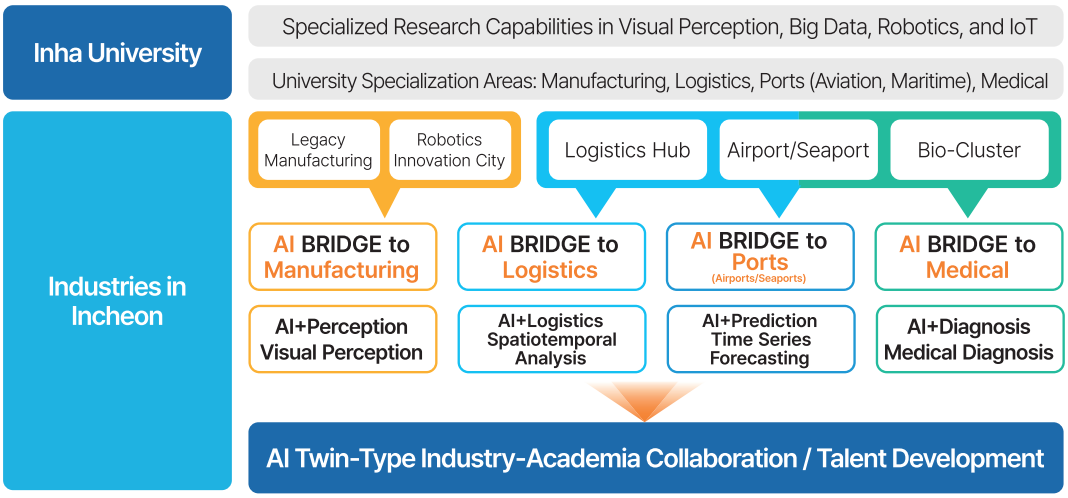
• Training high-level talent with practical experience in AI convergence applied to industry



Educational Model for the AI Convergence Graduate School

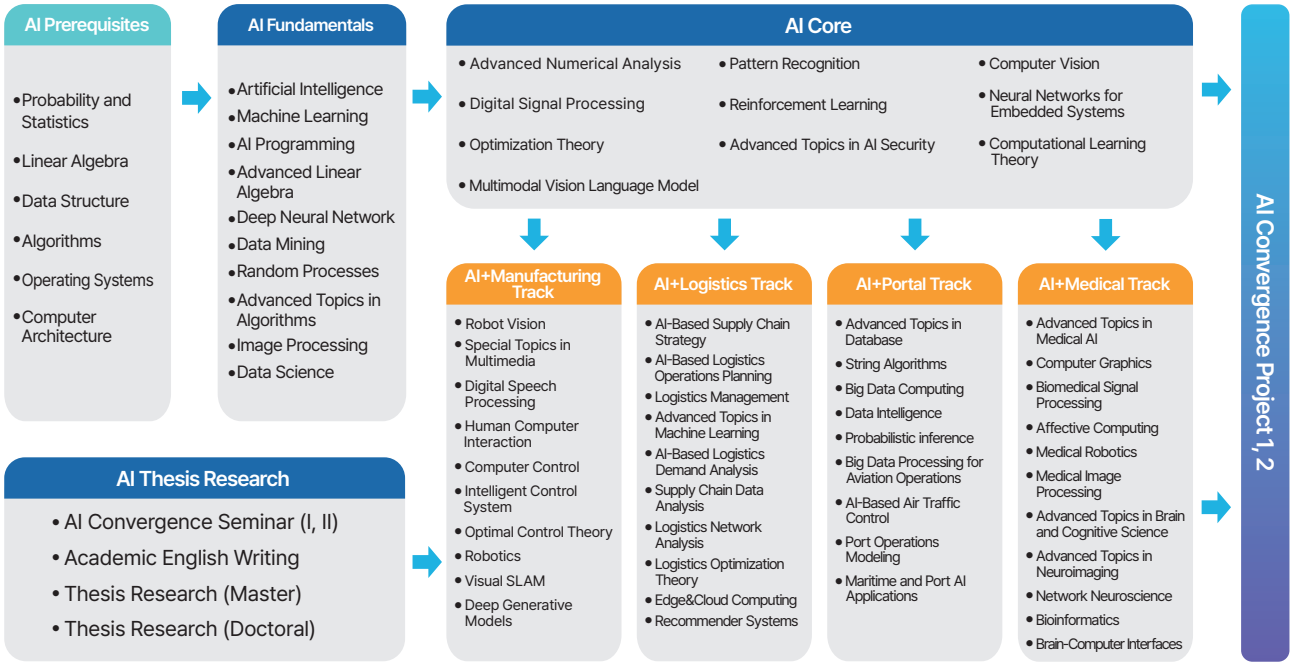
Specialized Areas

• **Manufacturing (AI+R)** : Core technologies for smart manufacturing and factories, focusing on visual perception
• **Logistics(AI+L)** : AI-based smart management and consumer logistics
• **Ports(AI+P) :** Predictive AI for aviation and maritime
• **Medical(AI+D)** : AI for biosignal and medical imaging in clinical settings



▶ Manufacturing, logistics, ports, and medical are designated as specialized areas, building on the strengths of Inha University and Incheon

Curriculum



Curriculum of AI Major in the Dept. of Electrical and Computer Engineering

Student Support Program

Full Tuition Support

Full-Tuition scholarship (worth 13 million KRW per year)

Additional Stipend Support

Additional stipend is available from participating projects

High-Performance GPUs Support

High-performance GPU servers with 24 petaFLOPS capacity

Support for Academic Activities

Support for domestic and international conference participation
Diverse Extracurricular Learning Opportunities

Support for Partner Collaboration

Collaborative Projects with Partners
Facilitating Networking Programs with Partner Institutions

Key Activities

AI Graduate School Symposium

- Participated in the "AI Graduate School Symposium" organized by the AI Graduate School Council and IITP
- Discussion with industry and academic experts on AI industry-academia collaboration and talent development strategies

Faculty Workshop

- Faculty workshop to share research and upcoming projects within the center

Industry-Academia Collaboration Workshop

• Workshop on AI research and industry trends, focusing on collaboration in education, research, and talent exchange

Industry-Academia Collaboration Meeting

• Regular meetings to share industry trends, exchange information, promote AI, and address company challenges

Major Projects and Achievements

AI Computing Server

- Data center-grade GPUs infrastructure (NVIDIA A100, A6000, A40, V100) and small-group GPUs servers
- In collaboration with Incheon Metropolitan City, established a "24 petaFLOPS" AI computing center to support researchers at Inha University, partner institutions, local organizations in Incheon

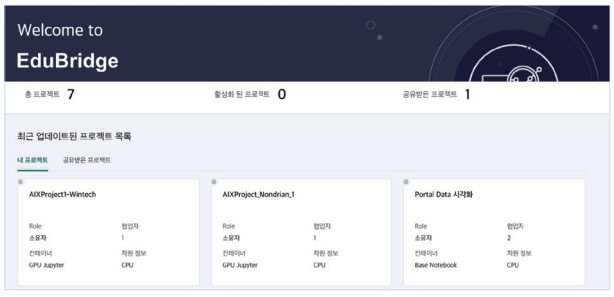
AI Industry-Academia Collaboration and Education Platform

- Jointly establishing an Industry-Academia AI Convergence Platform and an Industry-Academia Active Learning Platform in collaboration with our partner company, MondrianAI

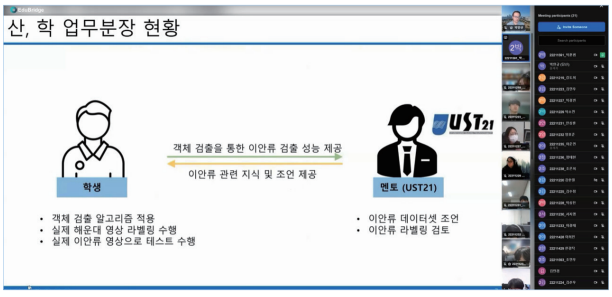
Industry-Academia Convergence AI Platform	AI-based Active Learning Education Platform
• Industry-Academia AI Platform for Disseminating AI Convergence Technology - Building a foundation for systematic and sustainable online collaboration between the center and companies - Scalable 'Big Data Sharing Platform' that provides a foundation for processing and integrating data from companies	• AI online education platform designed for active and interactive user participation - Fundamental online education features (Support for audio, video, collaborative text editing, online discussion sessions, etc.) - Feedback loop where students actively engage in the lecture content, which is then integrated back into the platform

Industry-Academia-Research-Education Platform Development

- AI/Remote Education Framework
- Industry-Academia Joint Projects
- In-House AI R&D Results
- Prototype production completed in 2022



Data/AI Model Development Platform Interface



Video Conferencing Platform Interface

Industry-Academia Collaboration

• AI Help Desk, AI Tech Clinic

"AI Help Desk" and "AI Tech Clinic" forums are operated on the Center's website (https://aix.inha.ac.kr)

AI Help Desk

Addressing AI challenges for university researchers and industry partners, and serving as a hub for technology integration

AI Tech Clinic

Providing AI consulting to both university and external industry partners

• Hanjin AI Academy

- Delivered AI education in collaboration with Hanjin Information & Communication and Korean Air
- Offered practical machine and deep learning courses for Hanjin Group's staff and executives

인공지능융합연구센터, 실무형 인재 양성 위한 '한진 AI 아카데미' 실시

한진정보통신·대한항공과 산학협력 통해 한진 그룹사 대상 AI 교육 실시

실무에 적용할 수 있는 딥러닝 · 머신러닝 특별 커리큘럼 강의

▲ 대한항공 본사에서 박인규 인공지능융합연구센터장이 대한항공 AI 아카데미 입원과정 강의를 진행하고 있다.

본교 인공지능융합연구센터가 한진 그룹사 임직원 230여 명을 대상으로 지난 7월 6일과 12일, 13~15일, 27~29일 4차례에 걸쳐 '한진 AI 아카데미'를 진행했다.

한진 AI 아카데미는 작년 하반기부터 한진정보통신과 연구센터가 한진 그룹사 내 AI 도입 활성화 및 AI 실무형 인재 양성을 위해 공동으로 추진하는 프로그램이다. 지난 2월에는 한진그룹 계열사 및 협력사 실무진을 대상으로 '딥러닝 · 머신러닝 초급과정'을 두 차례 실시한 바 있다.

연구센터 참여 교수진들은 산업계 실무에 적용할 수 있도록 체계적이고 전문적인 특별 커리큘럼을 개발해 딥러닝 · 머신러닝에 대한 기초 이론과 실무과정을 직접 강의했다.

AI Course for Korean Air Staff and Executives

Basic-AI Course for Hanjin Group Staff

AI Convergence Research Project

- Students, industry mentors, and professors collaborate on industry-sourced mini projects to address real-world demands
- Enhancing students' practical AI expertise and industry adaptability through industry-academic projects
- Data management, AI model development, and video conferencing are conducted on our internally developed AI platform

The JoongAng

2022년 03월 23일 수요일 C04면 특집

인하대는 전기컴퓨터공학과 인공지능전공 대학원생을 대상으로 '인공지능융합프로젝트' 교과목을 운영한다. [사진 인하대]

산학연계 '인공지능융합프로젝트' 운영

(교과목)

인하대학교

인하대학교는 인공지능융합연구센터 주도로 전기컴퓨터공학과 인공지능전공 대학원생을 대상으로 산학연계 '인공지능융합프로젝트' 교과목을 운영한다고 밝혔다.

인공지능융합프로젝트는 산업체 수요를 반영한 인공지능 관련 문제해결형 프로젝트 주제를 받아 올해 대학원생-지도교수-산업체 멘토가 팀을 이뤄 협업하는 방식으로 진행된다. 매 학기 전공필수 과목으로 개설되며, 이번 1학기는 총 20명의 대학원생이 13명의 지도교수 및 8개 산업체의 멘토와 14개의 산학 프로젝트를 팀 단위로 수행한다. 학생들은 산업 현장에서 발생하는 과제를 해결함으로써 산업체에 솔루션을 제공하고, 학위 취득 후 산업체 적응력을 높일 수 있을 것으로 기대한다.

특히 이 교과목에 인하대 인공지능융합연구센터가 자체 개발한 인공지능 플랫폼을 도입해 눈길을 끈다. 센터는 지난 2년간 인공지능 교육 및 산학 프로젝트 수행을 위해 참여 교수와 협력기관인 몬드리안에이아이와 공동으로 '인하 인공지능 플랫폼'을 개발했다. 플랫폼을 이용하면 교수와 수강생이 공동으로 인공지능 모델을 개발하고 학습하면서 산학협력 프로젝트를 원격 진행할 수 있고, 학습용 데이터를 효과적으로 저장·관리·시각화하며, 실시간 화상으로 비대면 협업을 수행할 수 있다.

인공지능융합연구센터는 자체 개발한 인공지능 플랫폼과 센터가 보유한 고성능 GPU 자원을 동시에 활용해 산학연계 프로젝트를 교육과 연구 측면에서 수행할 수 있는 토대를 마련했다. 향후 인공지능 플랫폼을 교내외로 확산해 다방면에서 활용될 수 있도록 할 계획이다.

박인규 인하대 인공지능융합연구센터장은 "이 과목을 통해 산학이 윈윈(win-win)할 수 있는 발전 계기를 마련하고, 산업체에 필요한 인공지능융합 핵심인재를 양성하는 데 큰 도움이 될 것이다"라고 말했다.

김승수 중앙일보M&P 기자
kim.seungsoo@joongang.co.kr

Industry-academic project company site visit

The project class screen using an artificial intelligence platform

AI Convergence Seminar

- Offered as a regular graduate course, expert-led seminars on various AI-related topics are held each semester
- Opening the seminar to local institutions and the broader local community, contributing to the spread of AI education

인하대학교 인공지능융합연구센터/ ABBI 인공지능융합센터/ BK21 인공지능교육연구단공동주관

인공지능융합연구센터

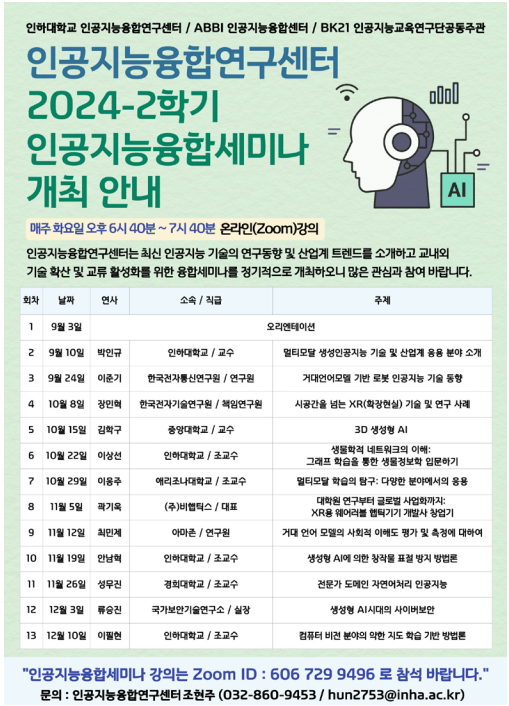
2024-1학기 인공지능융합세미나 개최 안내

매주 화요일 오후 6시 40분 ~ 7시 40분
온라인(Zoom) 강의

인공지능융합연구센터는 최신 인공지능 기술의 연구동향 및 산업계 트렌드를 소개하고 교내외 기술 확산 및 교류 활성화를 위한 융합세미나를 정기적으로 개최하오니 많은 관심과 참여 바랍니다.

회차	날짜	연사	소속 / 직급	주제
1	3월 5일	양원준	아주대학교 / 부교수	Knowledge Distillation 기술동향 소개
2	3월 12일	엄태웅	아트랩 / 대표	AI스타트업 창업101: 데이터부터 서비스까지
3	3월 19일	이웅구	네이버 / 데이터과학자	생성형 AI (Gen AI)와 새로운 검색 경험
4	3월 26일	조성호	카이스트 실패연구소 / 소장	실패 예찬
5	4월 2일	전예찬	플루언트 / 대표	기술창업가, 누구나 될 수 있다.
6	4월 9일	홍상현	오리건주립대학교 / 조교수	시스템 보안 관점에서 바라본 신뢰성 있는 기계 학습
7	4월 16일	송진영	대구경북과학기술원 / 조교수	인간-기계 협업 향상을 위한 하이브리드 지능 시스템 구축
8	4월 30일	박제만	경희대학교 / 조교수	첨단 사이버 포렌식 기법: AI 및 소프트웨어 포렌식
9	5월 7일	최진우	스탠퍼드대학교 / 연구원	산경결합과 인공지능 기반 뇌-컴퓨터 인터페이스
10	5월 14일	배수현	포도노스 / 대표	생성형 AI 시장과 스타트업의 기회
11	5월 21일	홍지수	삼성메디슨 / 연구원	의료 인공지능
12	5월 28일	박새롬	울산과학기술원 / 조교수	모두를 위한 안전한 AI
13	6월 4일	조광호	인천대학교 / 조교수	인공지능기반 의료영상 분석과 암 진단

"인공지능융합세미나 강의는 Zoom ID : 606 729 9496 로 참석 바랍니다."
문의 : 인공지능융합연구센터 조현주 (032-860-9453 / hun2753@inha.ac.kr)



인하대학교 인공지능융합연구센터 / ABBI 인공지능융합센터 / BK21 인공지능교육연구단공동주관

인공지능융합연구센터

2024-2학기 인공지능융합세미나 개최 안내

매주 화요일 오후 6시 40분 ~ 7시 40분 온라인(Zoom)강의

인공지능융합연구센터는 최신 인공지능 기술의 연구동향 및 산업계 트렌드를 소개하고 교내외 기술 확산 및 교류 활성화를 위한 융합세미나를 정기적으로 개최하오니 많은 관심과 참여 바랍니다.

회차	날짜	연사	소속 / 직급	주제
1	9월 3일	오리엔테이션		
2	9월 10일	박인규	인하대학교 / 교수	멀티모달 생성인공지능 기술 및 산업계 응용 분야 소개
3	9월 24일	이준기	한국전자통신연구원 / 연구원	거대언어모델 기반 로봇 인공지능 기술 동향
4	10월 8일	장민혁	한국전자기술연구원 / 책임연구원	시공간을 넘는 XR(확장현실) 기술 및 연구 사례
5	10월 15일	김학구	중앙대학교 / 교수	3D 생성형 AI
6	10월 22일	이상선	인하대학교 / 조교수	생물학적 네트워크의 이해: 그래프 학습을 통한 생물정보학 입문하기
7	10월 29일	이응주	애리조나대학교 / 조교수	멀티모달 학습의 함구: 다양한 분야에서의 응용
8	11월 5일	곽기욱	(주)비엠텍스 / 대표	대학원 연구부터 글로벌 사업화까지: XR용 웨어러블 텔릭기기 개발사 창업기
9	11월 12일	최민제	아마존 / 연구원	거대 언어 모델의 사회적 이해도 평가 및 측정에 대하여
10	11월 19일	안남혁	인하대학교 / 조교수	생성형 AI에 의한 창작물 표절 방지 방법론
11	11월 26일	성우진	경희대학교 / 조교수	전문가 도메인 자연어처리 인공지능
12	12월 3일	류승진	국가보안기술연구소 / 실장	생성형 AI시대의 사이버보안
13	12월 10일	이필현	인하대학교 / 조교수	컴퓨터 비전 분야의 약한 지도 학습 기반 방법론

"인공지능융합세미나 강의는 Zoom ID : 606 729 9496 로 참석 바랍니다."
문의 : 인공지능융합연구센터 조현주 (032-860-9453 / hun2753@inha.ac.kr)

AI Dissemination Research Program

- AI Model Development Challenge for Inha University Students on Selected AI Topics
- Fosters collaboration and strengthens research capabilities across IT and non-IT faculty
- Hosts a symposium for sharing research outcomes

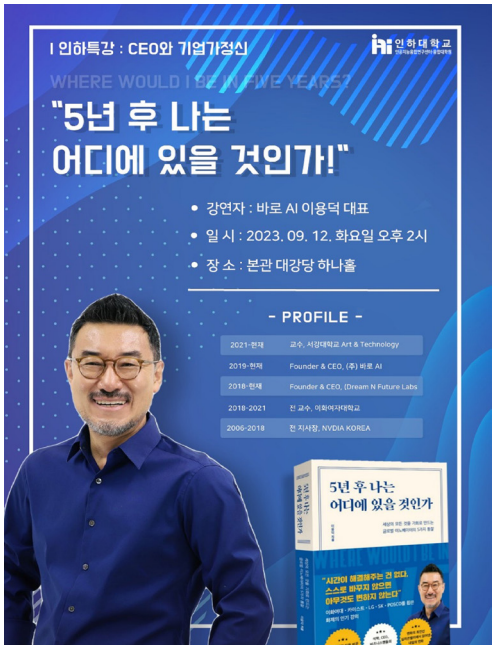
2023 AI Dissemination Research Program

2024 AI Dissemination Research Program

AI Entrepreneurship Seminar and Startup Cases

- Offers foundational knowledge and pre-experience for aspiring entrepreneurs
- Invite renowned CEO-level speakers and present the latest AI trends to increase educational engagement
- Promote outstanding startup cases to stimulate entrepreneurial activities among students and faculty

2023
AI Entrepreneurship Seminar



2024
AI Entrepreneurship Seminar

Inha AI Challenge

- AI model development challenge for Inha university students on selected topics AI
- The challenge aims to increase interest in AI and develop more sophisticated AI models
- Organize industry-academia collaboration meetings between sponsoring companies and participating students

2022
Inha AI
Challenge

2024
Inha AI
Challenge

Research Highlights and Rewards

- 149 high-impact publications over the past 3 years (as of March 2025)
- **66 publications in top conferences and JCR top 10% journals**

Publications in journals ranked in the top 10% of the JCR

- Sunwoo Kim, Yongjun Ahn, **Daeyoung Park**, and Byonghyo Shim, "VOMTC: Vision objects for millimeter and terahertz communications," **IEEE Transactions on Cognitive Communications and Networking**, 2025
- Jeong-A Lim, Joohyun Lee, Jeongho Kwak, and **Yeongjin Kim**, "Cutting-Edge inference: Dynamic DNN model partitioning and resource scaling for mobile AI," **IEEE Transactions on Services Computing**, 2024
- **Sunwoo Lee**, Tuo Zhang, Saurav Prakash, Yue Niu, and Salman Avestimehr, "Embracing federated learning: Enabling weak client participation via partial model training," **IEEE Transactions on Mobile Com-puting**, 2024
- Seo-Hyeong Park, Nur Suriza Syazwany, Ju-Hyeon Nam, and **Sang-Chul Lee**, "Integrating multimodal contrastive learning with prototypical domain alignment for unsupervised domain adaptation of time series," **Engineering Applications of Artificial Intelligence,** 2024
- Joong Chae Na, Youngjoon Kim, Seokchul Kang, and **Jeong Seop Sim**, "Order-preserving pattern match-ing with partition," **Mathematics**, 2024
- Seunghyun Lee and **Byung Cheol Song**, "Fast filter pruning via coarse-to-fine neural architecture search and contrastive knowledge transfer," **IEEE Transactions on Neural Networks and Learning Sys-tems**, 2024
- Seokho Ahn, Hyungjin Kim, Euijong Lee, and **Young-Duk Seo**, "SenDaL: An effective and efficient cali-bration framework of low-cost sensors for daily life," **IEEE Internet of Things Journal**, 2024
- Yihuai Liang, Yan Li, and **Byeong-Seok Shin**, "Dynamic authenticated keyword search in hybrid-storage blockchain," **Future Generation Computer Systems-The International Journal of eScience**, 2024
- Ju-Hyeon Nam and **Sang-Chul Lee**, "FSDA: Frequency re-scaling in data augmentation for corruption-robust image classification," **Pattern Recognition**, 2024
- Jion Kim, Yan Li, and **Byeong-Seok Shin**, "3D-DGGAN: A data-guided generative adversarial network for high fidelity in medical image generation," **IEEE Journal of Biomedical and Health Informatics**, 2024
- Pyeongjun Choi, Dongho Ham, **Yeongjin Kim**, and Jeongho Kwak, "VisionScaling: Dynamic deep learning model and resource scaling in mobile vision applications," **IEEE Internet of Things Journal**, 2024
- Sangwon Lee, Junho Hong, Ling Liu, and **Wonik Choi**, "TS-Fastformer: Fast transformer for time-series forecasting," **ACM Transactions on Intelligent Systems and Technology**, 2024
- Yu Zhao, **Yeongjin Kim**, and Joohyun Lee, "SOQ: Structural reinforcement learning for constrained delay minimization with channel state information," **IEEE Internet of Things Journal**, 2024
- Dohee Kang, Daeha Kim, Donghyun Kang, Taein Kim, **Bowon Lee**, Deokhwan Kim, and **Byung Cheol Song**, "Beyond superficial emotion recognition: Modality-adaptive emotion recognition system," **Expert Systems with Applications**, 2024
- Zuyu Zhang, Yan Li, and **Byeong-Seok Shin**, "Learning generalizable visual representation via adaptive spectral random convolution for medical image segmentation," **Computers in Biology and Medicine**, 2023
- Minsik Kim and **Daeyoung Park**, "Beamforming vector design and device selection in over-the-air federated learning," **IEEE Transactions on Wireless Communications**, 2023
- Ki-Hwan Kim, Myung-Seok Kim, Hye Min Lee, Myung Hwan Kim, and **Seung-Buhm Woo**, "Dominant factors responsible for wave modulation in the macro-tidal Gyeonggi Bay of the Yellow Sea," **Ocean Engineering**, 2023
- **Seung-Hwan Bae**, "Deformable part region learning and feature aggregation tree representation for object detection," **IEEE Trans. on Pattern Analysis and Machine Intelligence**, 2023

Publications in AI Top Conferences

- Matthew Marchellus, Nadhira Noor, and **In Kyu Park**, "Link to the past: Temporal propagation for fast 3D human reconstruction from monocular video," **IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR)**, 2025
- **Namhyuk Ahn**, KiYoon Yoo, Wonhyuk Ahn, Daesik Kim, and Seung-Hun Nam, "Nearly zero-cost protec-tion against mimicry by personalized diffusion models," **IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR)**, 2025
- Yoojin Jung and **Byung Cheol Song**, "Two is better than one: Efficient ensemble defense for robust and compact models," **IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR)**, 2025
- Seokho Ahn, Hyungjin Kim, Sungbok Shin, and **Young-Duk Seo**, "Real-time calibration model for lowcost sensor in fine-grained time series," **AAAI Conference on Artificial Intelligence (AAAI)**, 2025
- Jae-Yong Baek, Yong-Sang Yoo, and **Seung-Hwan Bae**, "A new multi-source light detection benchmark and semi-supervised focal light detection," **Neural Information Processing Systems (NeurIPS)**, 2024
- Zuyu Zhang, Yan Li, and **Byeong-Seok Shin**, "Embracing domain gradient conflicts: Domain generaliza-tion using domain gradient equilibrium," **ACM International Conference on Multimedia (ACM MM)**, 2024
- Seongho Kim and **Byung Cheol Song**, "All you need is your voice: Emotional face representation with audio perspective for emotional talking face generation," **European Conference on Computer Vision (ECCV)**, 2024
- **Sunwoo Lee**, "Layer-wise adaptive gradient norm penalizing method for efficient and accurate deep learning," **ACM SIGKDD Conference on Knowledge Discovery and Data Mining (SIGKDD)**, 2024
- Ju-Hyeon Nam, Nur Suriza Syazwany, Su Jung Kim, and **Sang-Chul Lee**, "Modality-agnostic domain generalizable medical image segmentation by multi-frequency in multi-scale attention," **IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR)**, 2024
- Junhyuk Kwon, Seokho Ahn, and **Young-Duk Seo**, "RecKG: Knowledge graph for recommender systems," **ACM/SIGAPP Symposium on Applied Computing (SAC)**, 2024
- Haneol Kang and **Dong-Wan Choi**, "Recall-oriented continual learning with generative adversarial meta-model," **AAAI Conference on Artificial Intelligence (AAAI)**, 2024
- Hyunjune Shin and **Dong-Wan Choi**, "Teacher as a lenient expert: Teacher-agnostic data-free knowledge distillation," **AAAI Conference on Artificial Intelligence (AAAI)**, 2024
- Seewoo Lee, Garam Lee, Jung Woo Kim, Junbum Shin, and **Mun-Kyu Lee**, "HETAL: Efficient privacy-preserving transfer learning with homomorphic encryption," **International Conference on Machine Learning (ICML)**, 2023
- Seong-Woong Kim and **Dong-Wan Choi**, "Better generalized few-shot learning even without base data," **AAAI Conference on Artificial Intelligence (AAAI)**, 2023
- Sangtae Kim, **Daeyoung Park**, and Byonghyo Shim, "Semantic-aware superpixel for weakly supervised semantic segmentation," **AAAI Conference on Artificial Intelligence (AAAI)**, 2023
- Daeha Kim and **Byung Cheol Song**, "Optimal transport-based identity matching for identity-invariant facial expression recognition," **Neural Information Processing Systems (NeurIPS)**, 2022
- Seunghyun Lee and **Byung Cheol Song**, "Ensemble knowledge guided sub-network search and finetuning for filter pruning," **European Conference on Computer Vision (ECCV)**, 2022
- Daeha Kim and **Byung Cheol Song**, "Emotion-aware multi-view contrastive learning for facial emotion recognition," **European Conference on Computer Vision (ECCV)**, 2022

Research Highlights and Awards

• Prof. Seo's group presented a paper at AAAI 2025

▲ Prof. Young-Duk Seo, Dept. of Electrical and Computer Engineering, Seokho Ahn (Ph.D. student), Hyungjin Kim (Ph.D. student), Sungbok Shin (Postdoctoral Fellow, Université Paris-Saclay)

Prof. Seo's research team has proposed TESLA (Transformer for Effective Sensor Calibration Utilizing Logarithmic-binned Attention), an artificial intelligence model that enables reliable data measurement from low-cost sensors used in Internet of Things (IoT) devices. This research was presented at AAAI 2025.

• Prof. Park Awarded '6th Sangjeon Retail Academic Award'

▲ Prof. Minyoung Park, Asia Pacific School of Logistics

Prof. Park has received the Grand Prize in Logistics at the 6th Sangjeon Retail Academic Award, established to discover and encourage outstanding researchers advancing retail studies. He was recognized for his significant contributions to promoting digital transformation across manufacturing, retail, and logistics enterprises, and for laying the groundwork for consumer logistics service infrastructure.

• Prof. Kim Received Minister Award in '10th Scientific Policing Idea Competition'

▲ Prof. Jong-Hyun Kim, Dept. Design Technology

Prof. Kim has received the Minister's Award from the Ministry of Science and ICT at the 10th Scientific Policing Idea Competition. He was recognized for his proposal and solution addressing issues in "scientific policing" within the field of digital twin and smart city safety, under the theme of "Evacuation Route Guidance System Considering Smart Cities During Hazardous Chemical Leaks."

Research Highlights and Awards

• Prof. Bae research team presented a Paper at NeurIPS 2024

▲ Jae-Yong Baek (Ph.D. student), Yong-Sang Yoo (Ph.D. student), Prof. Seung-Hwan Bae, Dept. of Electrical and Computer Engineering

- Prof. Bae's research team presented a paper titled "A New Multi-Source Light Detection Benchmark and Semi-Supervised Focal Light Detection" at NeurIPS 2024, proposing a multi-class light source dataset and an AI model, SS-FLD (Semi-Supervised Focal Loss Detection), capable of effectively classifying it.

• A student under Prof. Song presented a paper at ECCV 2024

▲ Seongho Kim (Master's student) and Prof. Byung Cheol Song, Dept. of Electrical and Computer Engineering

- Kim (Master's student), presented the paper 'All You Need is Your Voice: Emotional Face Representation with Audio Perspective for Emotional Talking Face Generation' at ECCV(European Conference on Computer Vision) 2024.

• Prof. Lee's group presented a paper at MICCAI 2024

▲ Jong Bub Lee (Master's student), Prof. Jung Soo Kim, Dept. of Internal Medicine, Inha University Hospital, and Prof. Hyun Gyu Lee, Dept. of Electrical and Computer Engineering

- Lee (Master's student), presented the paper COVID19 to Pneumonia:Multi Region Lung Severity Classification using CNN Transformer Position-Aware Feature Encoding Network) at MICCAI(Medical Image Computing and Computer Assisted Intervention) 2024.

Research Highlights and Awards

• Students under Prof. Lee published a paper at CVPR 2024

▲ Ju-Hyeon Nam (Ph.D. student), Nur Suriza Syazwany (Ph.D. student), Su Jung Kim (Ph.D. student), and Prof. Sang-Chul Lee, Dept. of Electrical and Computer

- Nam, Suriza, and Kim (Ph.D. students) developed an AI model called "MADGNet" for precise pixel-level prediction of cancer cells and other medical entities. Their paper, titled "Modality-Agnostic Domain Generalizable Medical Image Segmentation by Multi-Frequency in Multi-Scale Attention" was published at CVPR (Computer Vision and Pattern Recognition) 2024.

• Master's students under Prof. Choi presented their theses at AAAI 2024

▲ Haneol Kang (Master's student), Hyunjune Shin (Master's Student), and Prof. Dong-Wan Choi, Dept. of Electrical and Computer

- Kang (Master's student) presented at AAAI 2024 (Association for the Advancement of Artificial Intelligence) on a novel method called "Recall-Oriented Continual Learning with Generative Adversarial Meta-Model," which proposes a unique approach to recall the parameters learned by neural networks, inspired by the way the human brain retrieves memories.
- Shin (Master's student) presented at AAAI 2024 (Association for the Advancement of Artificial Intelligence) on a new knowledge distillation method. He was the first to discover that existing methods could lead to unstable learning performance depending on the teacher model, and developed an effective solution to address this issue.

• Students under Prof. Bae published a paper in IEEE TIP 2023

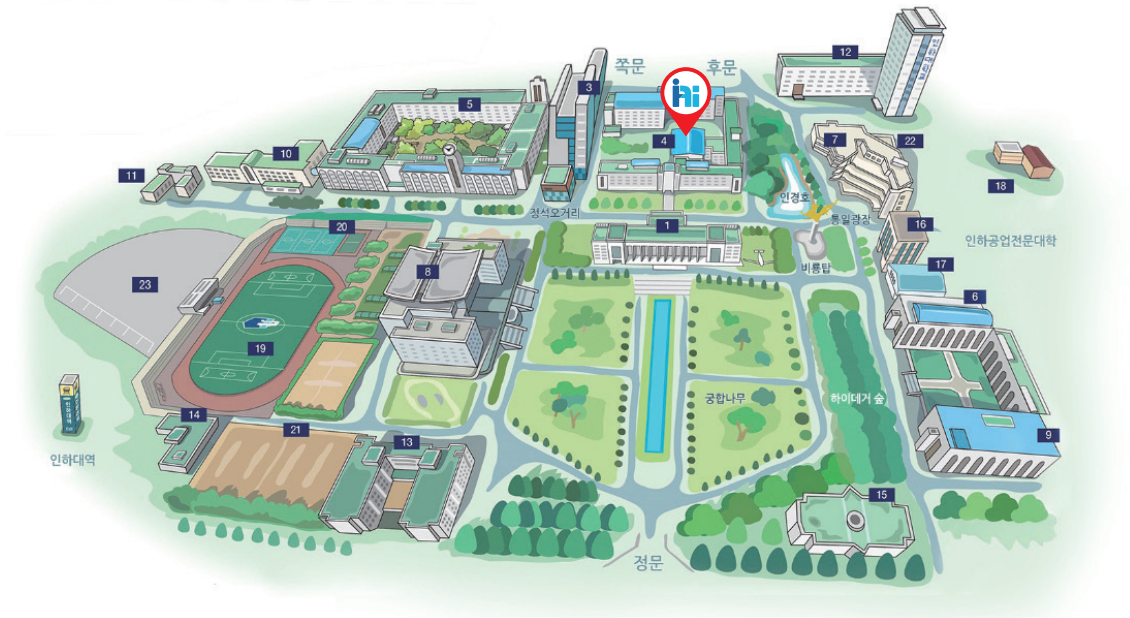
▲ Prof. Seung-Hwan Bae, Dept. of Electrical and Computer Engineering, and Seong-Ho Lee (Master's student) and Dae-Hyeon Park (Ph.D. student)

- Prof. Bae's research group published a paper titled 'Decode-MOT: How Can We Hurdle Frames to Go Beyond Tracking-by-Detection' in IEEE Transactions on Image Processing (TIP), the top-tier journal in the field of image processing. The paper proposes a novel tracking mechanism that enables real-time online operation for existing multi-object tracking technologies.

Center Organization and Contact Information

Full Name	Title	Responsibilities	Contact	Email
In Kyu Park	Director	Overall Management	032-860-9190	pik@inha.ac.kr
Byeonghwan Jeon	Deputy Director/ Industry Collaboration Professor	AI + Manufacturing Industry-Academia Collaboration	032-860-9471	bjeon2k@inha.ac.kr
Byungho Jo	Associate Researcher	AI Infrastructure	032-860-9472	bhjo12@inha.ac.kr
Gyuhyeon Kim	Research Administrator	Planning, HR, Performance	032-860-9469	hyeon@inha.ac.kr
Hyunjoo Cho	Research Administrator	Academic Affairs	032-860-9453	hun2753@inha.ac.kr
Soyeon Park	Research Administrator	Support for Industry-Academia Collaboration/Projects	032-860-9451	sypark@inha.ac.kr
Lumi Lee	Research Administrator	Budget, Agreements	032-860-9474	hayasky@inha.ac.kr

Contact and Directions



Address Building 4-210, 100 Inha-ro, Michuhol-gu, Incheon 22212, Republic of Korea

Contact AI Convergence Research Center (+82)32-860-9469, ai.inha.university@gmail.com

Getting Here by Subway
(Line 1) Juan Station, Exit 1: Village Bus 511, 515, 516, 518 / City Bus 5-1, 46
(Suin Line) Inha University Station, Exits 4 and 5

Getting Here by Bus
Seocho Station, Gangnam Station,
Yangjae Station, Seonbawi Station ▶ Bus 9200
Gwangmyeong Station, Seoksu Station ▶ Bus 3001
Sinchon Station, Seoul Station ▶ Bus 1601

INHA UNIVERSITY

AI Convergence Research Center·Graduate School

Building 4-210, 100 Inha-ro, Michuhol-gu, Incheon 22212, Republic of Korea
Tel. (+82)32-860-9469 Fax. (+82)32-232-9390
Email. ai.inha.university@gmail.com
http://aix.inha.ac.kr