School of
Electrical Engineering

KAIST EE

**Reshaping
Tomorrow's Technology**

KAIST
School of
Electrical Engineering

Vision

The School of Electrical Engineering is striving to serve as a cradle for innovative technology that will better serve the world.

Mission

The School of Electrical Engineering is committed to advancing new innovations, nurturing future thought leaders through interdisciplinary and multidisciplinary education, and conducting groundbreaking research crucial for making a significant impact on the world.

6 Divisions

Circuit	Communication
Computer	Device
Signal	Wave

Department of Semiconductor System Engineering

Graduate School of AI Semiconductor

Graduate School of Semiconductor Technology

The Architect of Korea's IT Dominance

Since its establishment in 1971, the Department of Electrical Engineering has gained distinct recognition for its cutting-edge research and innovative educational initiatives, fostered by dynamic collaborations with both government and industry. This tripartite partnership has played a pivotal role in propelling Korea onto the global stage as an IT powerhouse, elevating Korean semiconductor companies to global leadership positions and establishing KAIST as a world-class university.

Significantly, several breakthroughs from the EE Department have shaped Korea's IT landscape. In 1975, the Department embarked on CCD (Charge Coupled Device) research, leveraging its semiconductor design expertise and substantially contributing to Samsung Electronics' successful production of the 64K DRAM in 1983. Achieving another milestone in 1985, the Department developed the nation's inaugural 2-tesla MRI system. Then, in 1995, it pioneered Korea's first 386 microprocessor and a supercomputer with a processing power of 2.56 gigaflops.

Since those landmark achievements, the Department has consistently excelled in diverse domains such as semiconductor devices, circuits, communications, computing, and machine learning. Evolving into the School of Electrical Engineering in 2015, it has become KAIST's largest faculty and a global leader in the field. Expanding its impact, the school established the Department of Semiconductor System Engineering in 2022 and inaugurated both the Graduate School of AI Semiconductor and the Graduate School of Semiconductor Technology in 2023.

With a distinguished faculty comprising esteemed members and a vibrant student body of 2,200, the School of Electrical Engineering remains committed to advancing the frontiers of knowledge and nurturing entrepreneurial spirits that will reshape future technology.

The School of Electrical Engineering by the Numbers

(as of fall 2023)

Student Body

Undergraduate	950
Master Course	470
Ph. D Course	765
International Students	142
Dual Degree	1
Exchange Students	16
Total	2202

Faculty & Staff

Full Time Professors	88
International Faculty	8
Post-doc/Research Professors	39/7
Adjunct Professors	9
Emeritus Professors	44
IEEE & ACM Fellows	23
Administrative Staff	23

Startups

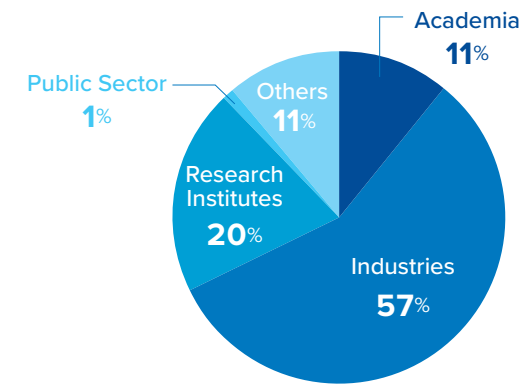|	
Faculty	12
Student	155

Patents & Technology Transfers

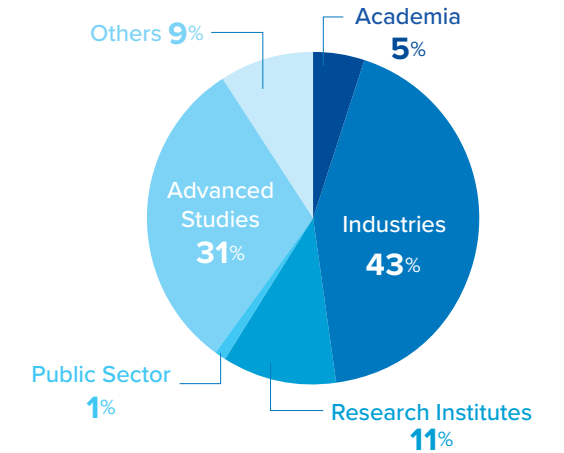|	
Patents Registered (domestic)	1,006
Patents Registered (global)	373
Technology Transfers	6.4 million USD

Research Centers & Labs

Research Centers	39
Labs	87

Alumni Career Path

Ph.D

Academia **11**%
Others **11**%
Public Sector **1**%
Research Institutes **20**%
Industries **57**%

BS & MS

Others **9**%
Academia **5**%
Advanced Studies **31**%
Industries **43**%
Public Sector **1**%
Research Institutes **11**%

Global Reputation

QS Ranking	**23**rd (2023)
Electronic Circuits	**1**st in ISSCC for 14 consecutive years
Machine Learning and AI	**11**th in the number of papers published in collaboration with the Graduate School of AI in ICML, the highest level in Asia in the fields of computer vision, AI, and deep learning
Computer Vision & Computer Architecture	**4**th in the CSRankings
Computer Systems	**9**th in the CSRankings

Publication

Avg publications per year in SCI/SSCI journals **410**

20% of our publications are in the Top 10% of journals

Research Grants

140 million USD/Year

Education

Where the Brightest Minds Unite, Think Outside the Box, and Push the Boundaries

The School of Electrical Engineering aims to nurture innovative thinking and push boundaries for addressing real-world problems. We equip students with a profound understanding of core principles and the ability to apply them through an integrated research-education approach that combines courses across various technical areas with hands-on experimental courses.

Our curriculum comprises 162 interdisciplinary courses, providing a balance of comprehensive knowledge and specialized depth in related fields. Notably, we are providing over 40 courses centered on artificial intelligence, machine learning, big data, and quantum computing, with 15 courses adopting Edu4.0, a flipped e-learning pedagogical methodology developed by KAIST.

Semiconductor-Intensive Program

Department of Semiconductor System Engineering

Sponsored by Samsung Electronics, the department prioritizes practical education on semiconductor systems, circuits, components, processes, and software, with a goal of matriculating 100 undergraduates annually by the year 2026. These graduates will then be employed by Samsung.

Graduate School of AI Semiconductor

The Graduate School of AI Semiconductor, founded as part of the Ministry of Science and ICT's AI Semiconductor Advanced Talent Development Project, offers a specialized curriculum in AI semiconductor technology. It covers topics ranging from AI system architecture design to circuit and component research. Additionally, the school actively facilitates in-depth collaborative research between industry, academia, and internship programs, and engages in various international academic cooperation initiatives through global networking.

Graduate School of Semiconductor Technology

The Graduate School of Semiconductor Technology was established under the government's Semiconductor Specialization Graduate School Support Program. The school is dedicated to nurturing interdisciplinary talents with a holistic approach. Its curriculum spans semiconductor education from concept to design, processes, components, and evaluation. Moreover, it endeavors to develop essential figures in the semiconductor realm by conducting extensive research on semiconductor components, materials, and packaging.

Industry Collaboration Program

Nurturing Real-World Problem Solvers

The School of Electrical Engineering has joined KAIST's industry collaboration academic programs, which are at the forefront of key technology sectors supported by major Korean technology companies. Graduate students chosen for these programs receive scholarships from these companies and are offered employment with them upon graduation.

- KAIST Educational Program for the Semiconductor Industry with SK Hynix (KEPSI)
- Educational Program for Samsung Semiconductor (EPSS)
- Lgenius Program
- KAIST Future Mobility Program with Hyundai Motor Group
- Educational Program for Samsung Display (EPSD)
- KAIST Robotics Program with Samsung Electronics

Reskilling and Upskilling Programs

We provide a retraining program tailored for on-site engineers. Utilizing a dedicated wireline network, engineers can pursue an advanced degree by taking real-time broadcasted courses without the need to visit the campus. We offer non-degree re-training programs focused on artificial intelligence and machine learning. These programs are designed to help engineers enhance their knowledge and skills through industry-customized training.

- SK Hynix-KAIST ASK program
- SeongNam-KAIST AI intensive program

EE Co-Op Program

EE Externship Program for Tech Startup Entrepreneurs

The program is an eight-week internship program targeting undergraduates in their third year or higher, as well as new graduate students. It aims to connect students with startups, small and mid-sized companies, and accelerators in the technology sector, especially in early stages, providing them with hands-on experience in the entrepreneurial venture ecosystem.

6+2 Hands-On Internship

Third and fourth-year undergraduates can acquire practical, hands-on skills at our partner companies for up to six months during a semester. Before starting their work, the students use a two-month vacation period to engage in individual research relevant to their responsibilities at the company. With guidance from the company's task plan, individual research labs are designated, and faculty mentors and teaching assistants are assigned to facilitate pre-training research for a more comprehensive grasp of the hands-on training.

Faculty

Prolific Researchers
Visionary Innovators
Driven Entrepreneurs
World-Class Educators
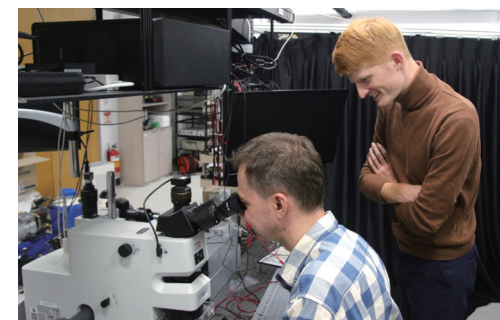
The School of Electrical Engineering takes pride in its distinguished faculty members, whose groundbreaking research has made a significant impact on the nation's economic growth.

The School of Electrical Engineering distinguishes itself through its substantial faculty, comprising 88 full time professors, which is the largest number among all 27 faculties at KAIST. These professors are prolific researchers, innovators, entrepreneurs, and world-class educators who continuously push the boundaries of knowledge and innovation together with their students.

Notably, approximately 20% of the professors are IEEE fellows, and the School of Electrical Engineering boasts three editors-in-chief and 57 editors and associate editors contributing to leading academic journals.

Faculty Highlights

Emeritus Professor Choong-Ki Kim

Professor Kim holds the distinction of being the first in Korea to systematically teach semiconductor engineering, a role he fulfilled from 1975 until his retirement in 2008. Dubbed as "the father of semiconductors," he created the first two generations of Korean semiconductor experts. Many of these experts assumed leadership positions in the industry, both at home and abroad, as well as coveted positions in universities and research institutes.
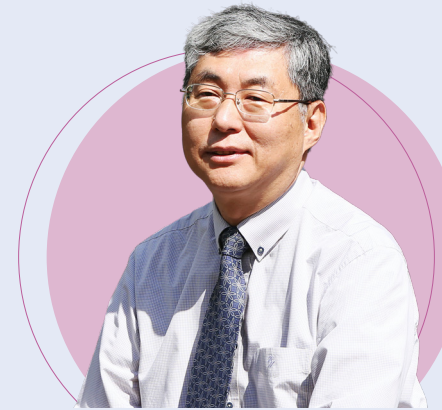
Professor Hoi-Jun Yoo

Professor Yoo, the dean of the Graduate School of AI Semiconductor, has earned recognition as one of the top five contributors at the International Solid-State Circuits Conference (ISSCC), having presented over 60 papers. His team has published a total of 63 papers at ISSCC from 2000 to 2023. An internationally acclaimed expert in semiconductor chip design, Professor Yoo made history in 1995 by presenting the first paper at ISSCC following his groundbreaking development of the world's first 256M SDRAM. He was the first Asian professor to be invited as an ISSCC key-note speaker in 2019.

Emeritus Professor In So Kweon

Professor Kweon is a distinguished scholar in the fields of computer vision and robotics and was consistently ranked as a top researcher in Korea, according to CSRankings, from 2010 to 2020. He has an impressive record of 97 publications, showcasing his extensive contributions to the field. In 2015, HUBO, a humanoid robot equipped with robotic eyes developed by Professor Kwon's team, won the DARPA Robotics Challenge.

Professor Sung-Ju Lee

Professor Lee, an esteemed figure in the field of networking and mobile systems, is widely recognized for his active involvement in international academic conferences. He served as the General Chair of ACM MobiCom in 2014 and held key positions as the co-TPC Chair for IEEE INFOCOM in 2016 and ACM MobiCom in 2021. His impressive contributions to the field have earned him the distinction of being an ACM Distinguished Scientist since 2011 and an IEEE Fellow since 2013. He won the HP CEO Innovation Award in 2010 as part of the mega-scale wireless sensor networking team.

Professor Joungho Kim

Professor Kim, who formulated 'Kim's Law' asserting that a memory stack doubles every two years, is globally acclaimed for his pioneering work in high-performance semiconductor design, particularly through AI-X. His foundational contributions, notably in the '5I Converged Design,' establish him as a leading figure in system semiconductor packaging. His pivotal role in High Bandwidth Memory (HBM) development propelled Samsung Electronics and SK Hynix to global semiconductor leadership. Known for his active involvement in industry collaboration research, he directs joint research centers with Samsung Electronics and SK Hynix, also leading the KAIST-Samsung Electronics Industry-Academia Collaboration Center.

Professor Junil Choi

Professor Choi has achieved the remarkable distinction of becoming the first Korean scholar to receive the IEEE Best Paper Award four times. His outstanding contributions to the field have garnered prestigious accolades including the 2022 IEEE Vehicular Technology Society Best Vehicular Electronics Paper Award, the 2021 IEEE Vehicular Technology Society Neal Shepherd Memorial Best Propagation Award, the 2019 IEEE Communications Society Stephen O. Rice Prize, the 2015 IEEE Signal Processing Society Best Paper Award, and the 2013 Global Communications Conference Signal Processing for Communications Symposium Best Paper Award.

Research

Unraveling Creative Innovation
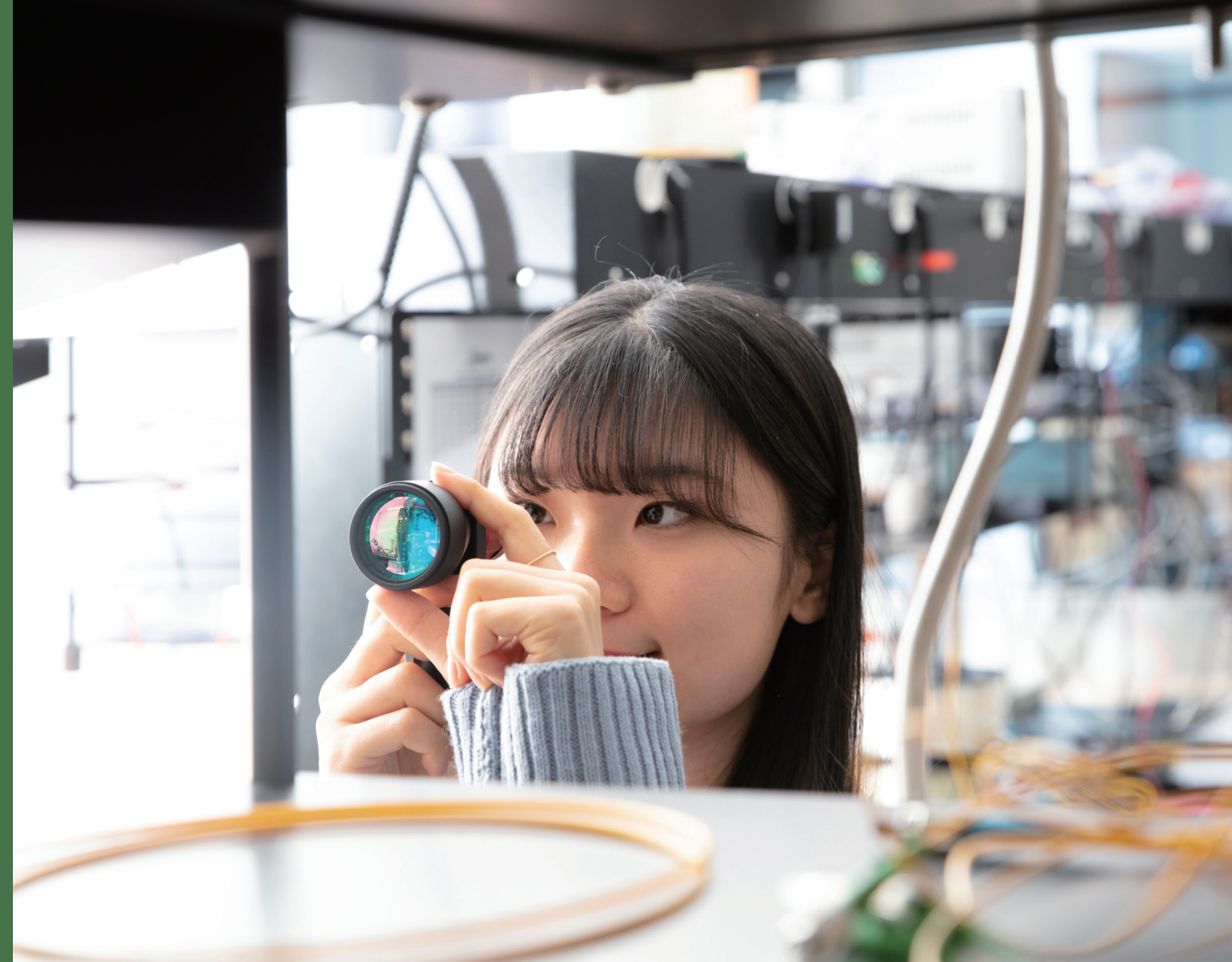
The School of Electrical Engineering leads collaborative research across six divisions: circuit, communication, computer, device, signal, and wave. With 39 government-funded research centers and 87 labs, we aim to rank among the top 10 in super-connected intelligence by 2027, fostering a cycle where groundbreaking research drives graduate education excellence.

Our strategic focus is on high-value convergence technologies leveraging our expertise in brin science, bio-smart sensors, 6G, electric vehicles, robotics, smart cities, next-generation semiconductors, quantum computing, energy, and security. We foster strong industry-academia synergy, particularly in AI+X applications in healthcare, autonomous driving manufacturing, and security.

Core Focus

Computer
Mobile computing, network systems, cloud systems, security, deep learning

Device
Next-generation displays, nano devices, high-speed electronics

Wave

Signal

Circuit
VLSI processors, energy harvesting, display semiconductors, wired/wireless transceivers

Areas

Computer

Communication
5G/6G, IoT, M2M communication, green communication

Signal
Signal/image processing, computer vision, power energy, intelligent robots, brain IT, AI

Circuit
VLSI processors, energy harvesting, display semiconductors, wired/wireless transceivers

Wave
Optics, antenna systems, electromagnetics RF/MW/mm, plasmonic, quantum computing

Device
Next-generation displays, nano devices, high-speed electronics

Research Highlights
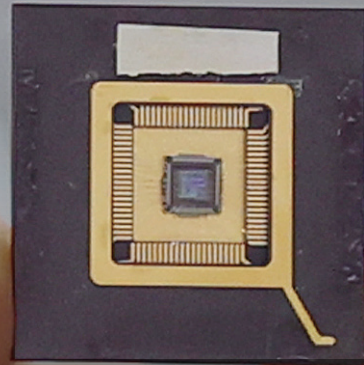
Transforming Tomorrow: AI+X Semiconductor Innovation

System Semiconductor Packaging Research Lab
Professor Joungho Kim

The demand for low-power AI semiconductors is driving the semiconductor industry's strategic growth. System semiconductor packaging holds the key, integrating processors and memory within electronic package systems to enhance AI performance while reducing power consumption. The System Semiconductor Packaging Research Lab, established in 2022 as part of the KAIST Cross-Generation Collaborative Lab Initiative, aims to leverage mega-scale data center servers for AI services, aligning with the digital revolution. It focuses on 3D semiconductor packaging's structural design, pursuing Signal and Power Design, EMI Design, and Mechanical and Thermal Design. The lab aims to improve design automation using AI, striving to lead innovations in design methodologies and materials. Collaborations span industry giants like Samsung Electronics, SK Hynix, NVIDIA, Intel, Google, and Tesla, aimed at establishing South Korea as a semiconductor powerhouse through continuous fundamental research.

Making a Mark in the Self-Driving Technology Industry

Unmanned Systems Research Group
Professor Hyunchul Shim

The Unmanned Systems Research Group (USRG) led by Professor Hyunchul Shim is significantly advancing the self-driving automotive technology sector. The team achieved a commendable feat by participating in the Autonomous Challenge at CES for the second consecutive year, representing the sole Asian university team in both 2022 and 2023. Notably, in the 2023 CES race, the USRG team upgraded an AV- 23 vehicle, increasing its speed capability from 240 km/h in 2022 to an impressive 300 km/h. Their qualification for the Indy Autonomous Challenge granted them eligibility to participate in the CES racing event. Pioneering the first-generation domestic autonomous driving research lab in Korea, the team initiated autonomous driving research. Over the past 15 years, the team has garnered significant recognition in the field of autonomous aerial and ground vehicles. Their self-driving car was certified by the Korean government to run on public roads in 2018 and the team signed the collaborative partnership with Hyundai Motor Company in 2023.

Wirelessly Rechargeable Soft Brain Implant Controls Brain Cells

Bio-Integrated Electronics and Systems Lab
Professor Jae-Woong Jeong

This wireless rechargeable brain implant controls brain circuits for long periods of time without needing to replace the battery. The implant, made of ultra-soft, biocompatible polymers, features micrometer-sized LEDs on ultrathin probes to wirelessly manipulate deep brain neurons using light, and can be recharged wireless from outside the body. This implant is remotely controlled via a smartphone, eliminating the need for battery replacement surgeries. This breakthrough can be used to treat psychiatric disorders and neurodegenerative diseases such as addiction, depression, and Parkinson's.

Washable and Flexible Transparent OLED Utilizing MXene Nanotechnology

Advanced Display and Nano Convergence Lab
**Professor Kyung Cheol Choi**

Washable, flexible, and transparent OLED displays are being used in various fields, including automobile displays, healthcare, fashion, and for the military. The research team utilized MXene nanotechnology to create a water-resistant OLED capable of emitting and transmitting light, even when exposed to water. To overcome MXene's vulnerability to atmospheric moisture and water, the researchers employed encapsulation techniques including a double-layered membrane and a thin plastic film, enhancing the devices' durability and stability.

DreamWaQer:
A Quadrupedal Robot for Dark Environments

Urban Robotics Lab
Professor Hyun Myung

This quadruple robot equipped with DreamWaQ, an innovative technology that enables legged robots to achieve robust and adaptable locomotion in challenging environments, can navigate curbs, speed bumps, tree roots, and gravel. The robot even overcame a staircase with remarkable adaptability and stability across different walking speeds. DreamWaQ leverages deep reinforcement learning (RL) methods, allowing it to rapidly compute optimal control commands based on data obtained from various environments simulated for training. DreamWaQ's ability to learn and adapt in real time without requiring extensive reconfiguration makes it a promising application for search and rescue missions or autonomous robotic systems. The DreamWaQer robot won the 2023 Quadruped Robot Challenge hosted by the IEEE International Conference on Robotics and Automation.
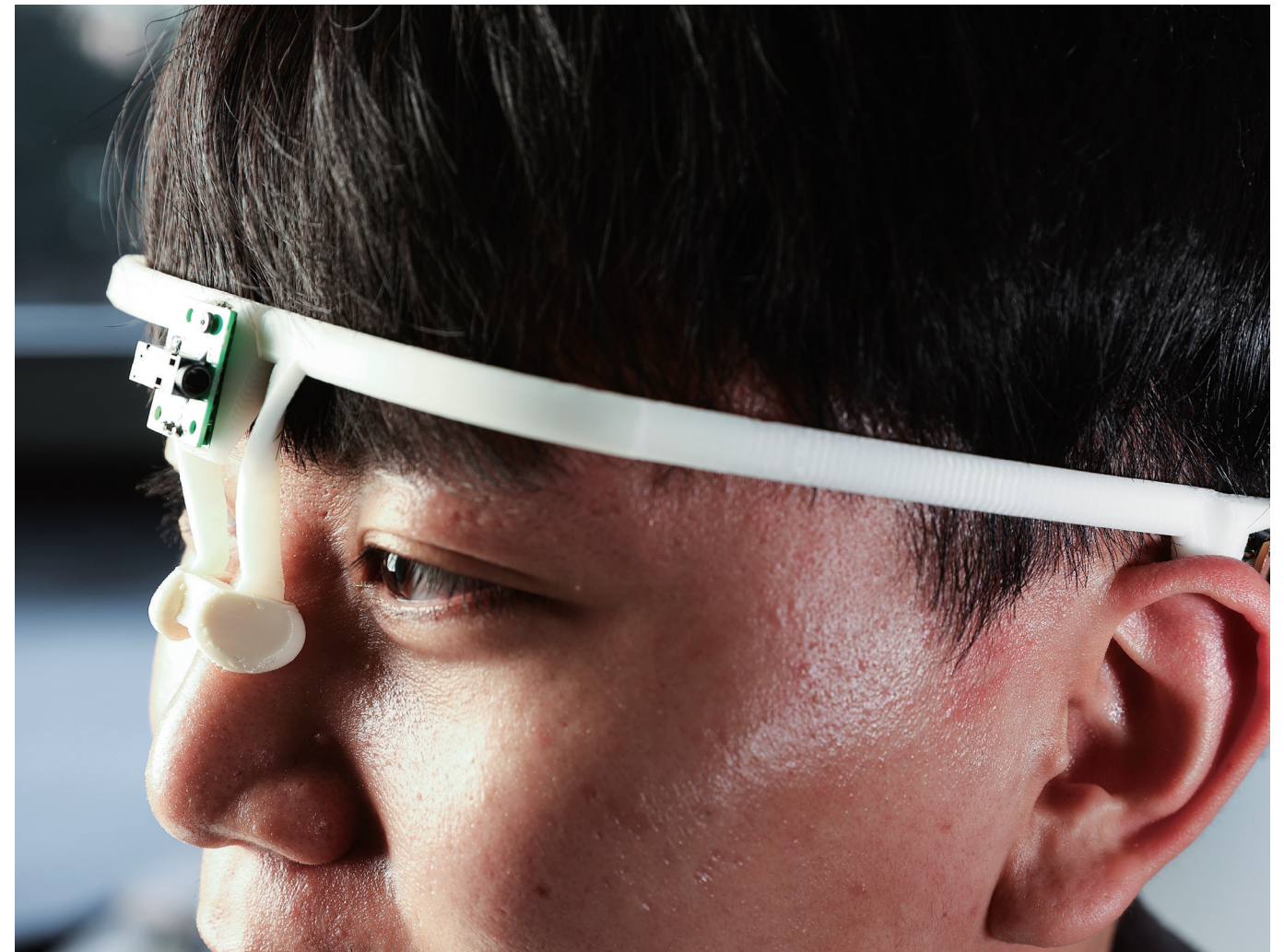
Smart Glasses Securing Access
in a Touchless Interface

Wearable and Interactive Technology Lab
Professor Ian Oakley

These prototype glasses feature a bone conduction speaker emitting sound into the skull bones, alongside surface microphones behind the ear and on the forehead. These microphones capture and analyze the altered signals passing through the skull, which vary based on individuals' skull sizes and compositions. Extensive evaluations reveal that these signals remain stable over time and are unique to each user. Researchers successfully authenticated users by playing a startup sound and analyzing their skulls' audio responses, requiring no user action. This method, being internal and thus unaffected by external noise, offers seamless and secure authentication by merely wearing the smart glasses.

Global
Partnerships

Expanding Global Horizons

International Dual Degree Programs

The School of Electrical Engineering offers dual-degree programs in collaboration with Georgia Tech's School of Electrical and Computer Engineering and the Technical University of Denmark's Department of Photonics Engineering and Department of Electrical Engineering.
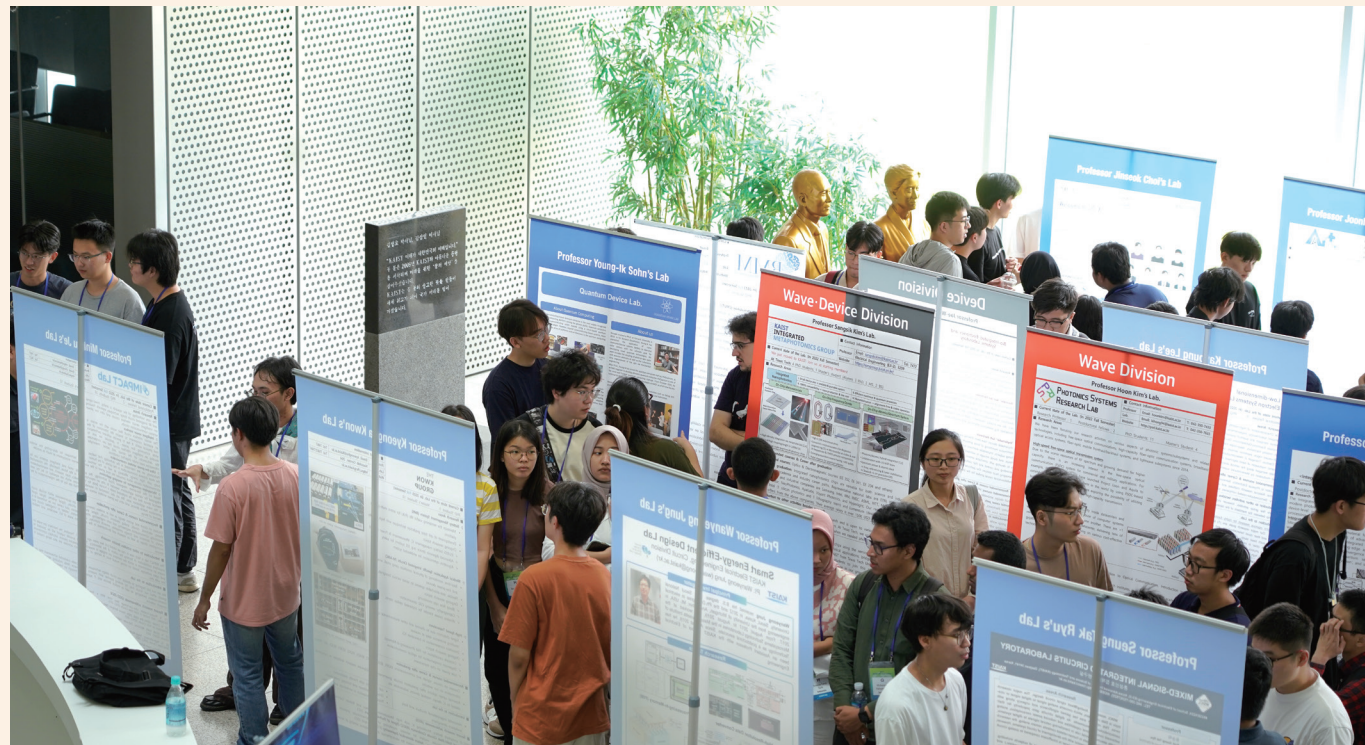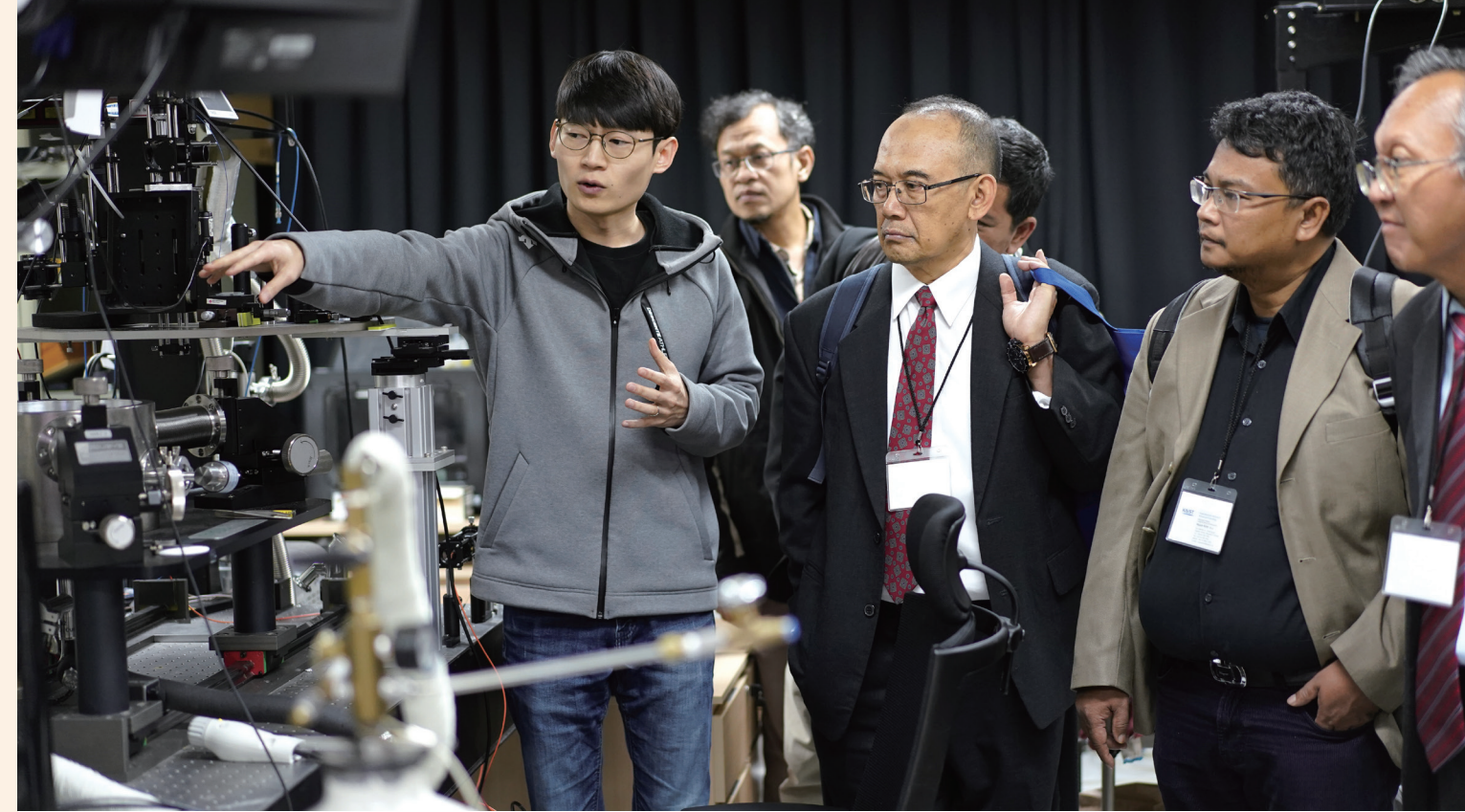
KAIST-Georgia Institute of Technology Dual BS Program

This 2+2 program is available for first-year and second-year undergraduates. It entails spending two years at both KAIST and the Georgia Institute of Technology, meeting the graduation requirements of each university.

KAIST-Technical University of Denmark MS Program

This 1+1 program is available for fourth-year undergraduates and first-year graduate students. The program involves spending two consecutive semesters at the partner university while satisfying their graduation requirements.

KAIST EE X **GEORGIA TECH**   **KAIST EE** X **DTU**

KEEP-I

The KAIST EE Partners-International (KEEP-I) program aims to strengthen global university networks, particularly with esteemed professors and researchers worldwide. Annually, the School of Electrical Engineering hosts professors from partner universities, showcasing our research portfolios for future collaborations opportunities. Since its launch in 2018, over 120 scholars have actively participated in this program.

330 Global Partners

The School of EE has established international research networks with 27 countries including the US, China, the UK, and Japan, and has conducted international research collaborations with 100 universities including the world's top universities such as MIT, UC Berkeley, and Stanford University. We have more than 330 global research partners including Google, Microsoft, Amazon, and NASA.

EE Visit Camp

This annual summer campus visit program, launched in 2017, is designed to encourage undergraduate students from partner universities to pursue their advanced studies at the KAIST School of Electrical Engineering. The four-day program provides insights into KAIST and the School of Electrical Engineering, aiding their future study planning. Approximately 300 students selected from partner universities have joined the program so far.

Entrepreneurship

Innovators Network Around the Globe

Leadership in Key Technology Industry

Oh-Hyun Kwon (MS '77) and Ki-Nam Kim (MS '81)

Approximately 9% of Samsung Electronics executives, including former CEOs Oh-Hyun Kwon and Ki-Nam Kim, and 15% of SK Hynix executives are KAIST alumni, with most of them graduating from the School of EE. Notably, our graduates have gone on to become tenure-track faculty members at 68 universities in Korea and seven overseas institutions. Furthermore, they are at the forefront of driving cutting-edge technologies within globally renowned IT companies.

Entrepreneurs of Mid-Sized Companies

Our entrepreneurial alumni have established mid-sized companies including Dawonsys, which specializes in high-capacity power supplies, with annual sales of $170 million, and i3System, a manufacturer of infrared image sensors with annual sales of $70 million. Furthermore, our graduates are actively involved in various tech startups, such as Twinny (autonomous robots), Hanool Robotics (intelligent robots), Lunit (AI software for medical imaging), and Selecstar (AI data platforms).

SiFive

Yoon-Sop Lee (BS '01)

Chip design startup SiFive, based in Santa Clara, California in the US, builds chips based on an open chip architecture known as RISC-V. SiFive was co-founded by Yoon-Sop Lee and aims to challenge the dominance of Arm Ltd by supplying key parts of chip designs that are used throughout the semiconductor industry. It received a valuation of roughly 2.5 billion USD in 2022 after raising 175 million USD that year.

Rebellions Inc.

Sunghyun Park (BS '02)

AI chip design startup Rebellions, co-founded by Sunghyun Park, is a frontrunner in challenging global leader Nvidia as it designs and manufactures hardware that powers potentially revolutionary AI technology. The company's ATOM chip is designed to excel at running computer vision and chatbot AI applications, consuming only about 20% of the power of an Nvidia chip on those tasks. Since its establishment three years ago, Rebellions has received over 100 billion KRW (76 million USD) in investments.

Lion Semiconductor

Won-Young Kim (BS '03)

This startup, co-founded by Won-Young Kim and based in Silicon Valley, developed high-efficiency, switched-capacitor power ICs for the ultra-fast wired and wireless charging of mobile devices including smartphones and laptops. The company is backed by world-leading semiconductor investors including Walden Riverwood, Atlantic Bridge Ventures, and SK Hynix. It was acquired by Cirrus Logic for 313 million USD in 2012.

Panmnesia

Professor Myoungsoo Jung

Panmnesia is a fabless semiconductor company focused on advancing Compute eXpress Link (CXL) technology founded by Professor Jung. Positioned as a leader in the semiconductor industry, Panmnesia specializes in the development and provision of CXL Intellectual Property (IP). CXL serves as an interface technology facilitating seamless connections among various system devices, enabling dynamic memory utilization and cost-effective memory management in data centers, cloud computing, and high-performance computing environments. Recently, the company secured $12.5 million in seed funding.

HyperAccel

Professor Joo-Young Kim

HyperAccel expands the accessibility of generative AI by introducing a novel semiconductor infrastructure. This entails the design of generative AI processors and servers that outperform current GPU solutions. Through groundbreaking innovations like the Latency Processing Unit (LPU), the world's inaugural AI processor tailored for generative AI, and the appliance server Orion, HyperAccel strategically partners with leading tech companies overseeing data centers and mobile and edge computing. They achieve this by offering semiconductor IPs and low-power solutions.

Qunova Computing

Professor June-Koo Kevin Rhee

Professor Rhee, the director of the Quantum Computing Research Center, launched Qunova Computing, Korea's trailblazing venture into quantum computing. With a sharp focus on leveraging quantum simulations and AI, the company seeks to redefine the landscape of medication and materials research and aims to provide sustainable solutions that transcend borders and cater to global challenges.

MilliTrack

Professor Song Min Kim

MilliTrack advances indoor RTLS(Real-Time Location System) to an unprecedented level of precision and range. Leveraging award-winning technology, MilliTrack introduces the world's first RF tag boasting an astonishing 0.3mm localization accuracy, an extensive range of up to 150 meters, and the ability to concurrently position over a thousand tags in real-time, offering world-leading performance across every aspect. Specifically designed using a millimeter-wave spectrum, the MilliTrack tag features a compact form factor of a few square centimeters and boasts a 40-year battery lifetime, ensuring low-cost and rapid attach-and-forget deployment. MilliTrack stands uniquely positioned to revolutionize high-precision robot control, immersive virtual and augmented realities, and the comprehensive monitoring of massive smart factories.

EE Trailblazers:
Driving Korea's Technology Forward

1975
Pioneer's Invention Ignites the Era of Korean Microwave Ovens
Professor Jung-Woong Ra

1986
Innovative Radar Technology Unveils North Korean Tunnel Threat
Professor Jung-Woong Ra
Groundbreaking radar technology that employed radio frequency electromagnetic waves explored underground cavities, structures, and facilities. This technology led to the identification of the fourth clandestine tunnel dug by North Korea with the intention to infiltrate South Korea.
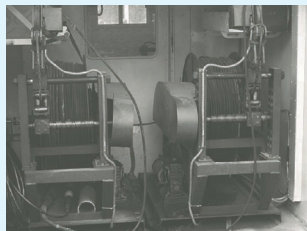
1992
Korea's Space Exploration Begins with KITSAT-1 Launch
Professor Soon-Dal Choi and Professor Dan-Keun Sung
Korea's first satellite, KITSAT-1, initiated the nation's successful space exploration, laying the foundation for Korea's long-term space development plan. Over the past two decades, Korean expertise in satellite development has led to the creation of seven advanced satellites, establishing a strong foundation for satellite technology.

1995
1995: Korea's Microprocessor Milestone - The Birth of HK 386"
Professor Jong-Min Kyung
The first Korean 386 microprocessor is known as the 'HK386.' This 32-bit microprocessor was fabricated using 0.8-micrometer complementary metal-oxide-semiconductor technology and followed the complex instruction set computing design paradigm, ushering in a new era of microprocessor technology in Korea.
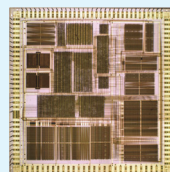
1995
1995 Supercomputing Revolution – the Birth of Habit-1
Professor Kyu-Ho Park
Hanbit-1, is a high-performance parallel computer that marked Korea's entry into the world of supercomputing. With a peak performance of 2.56 gigaflops for scientific and engineering applications, Hanbit-1 consisted of 32 node computers interconnected through a hypercube network, all of which were designed and built at KAIST.

1995
Robot Soccer Takes Root at KAIST
Professor Jong-Hwan Kim
Robot soccer utilizes three or four small robots on each team that collaborate to score goals. This robot system autonomously identifies the ball and goal areas, in addition to real-time recognition of the positions of the robots, enabling strategic game play. Professor Kim inaugurated the Micro-robot World Cup Soccer Tournament in 1996 and established the Federation of International Robot-Soccer Association in 1997.
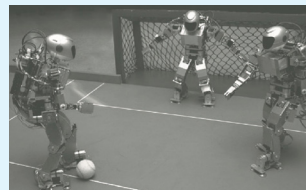
1999
First Faculty Startup with High-Performance Audio Amplifier
Professor Gyu-Hyeong Cho
The first faculty startup "A.Tankamen" was launched with Professor Cho's hybrid audio power amplifier. Leveraging analogue-to-digital conversion, their innovation combines an analog audio amplifier with a digital switcher, resulting in an amplifier that achieves low distortion while maintaining high efficiency.
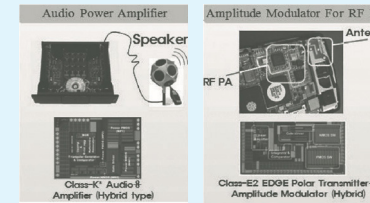
2009
Wireless Charging Electric Bus Paves the Way for Future Mobility
Professor Dong Ho Cho
'Shaped Magnetic Field in Resonance (SMFIR)' tech wirelessly charges moving or parked electric vehicles via cables under roads. These cables get power from inverters on roadsides, creating magnetic fields converted to electricity for vehicles. Recognized by Time as a top 2010 invention and by the World Economic Forum in 2013, it powers buses in Gumi and Daejeon, Korea.

2015
Hubo Wins DARPA Robotics Challenge
Professor In So Kweon
DRC-HUBO, a humanoid robot equipped with robotic eyes, developed by Professor Kweon's team, won the DARPA Robotics Challenge. Professor Kweon's robotic eyes played a pivotal role in DRC-HUBO prevailing over other robots by completing all eight tasks flawlessly in the shortest amount of time.
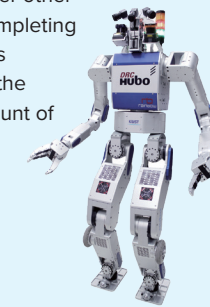
2023
DreamWaQer Wins the 2023 Quadruped Robot Challenge
Professor Hyun Myung
The quadruped robot, DreamWaQer, which has four robust and adaptable locomotion legs, excelled in navigating challenging environments, winning the 2023 Quadruped Robot Challenge hosted by the IEEE International Conference on Robotics and Automation in London. The robot's four-legged mobility is made possible through advanced deep reinforcement learning (RL) methods, enabling the rapid computation of optimal control commands based on data collected from various simulated training environments.

KAIST EE