인공지능 시대 직업역량과 교육훈련

Job Competencies and Vocational Training in the Age of AI

나 영 돈 서울과학기술대 석좌교수

목   차

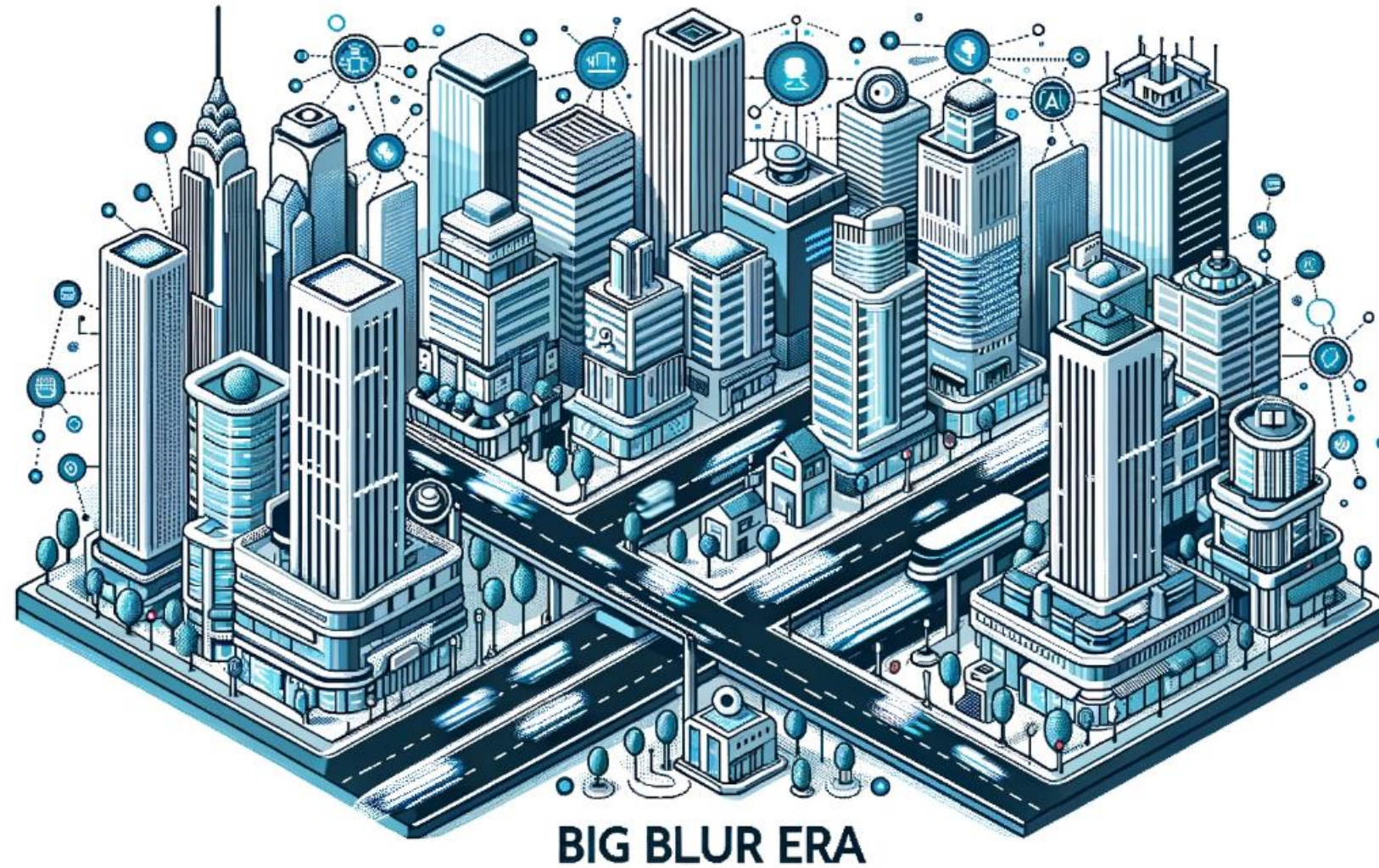# I. AI와 빅블러 시대: 텍스트, 이미지, 코딩 등 일상 속으로

Render of an advanced study room. Books on the shelf have AI-generated summaries, a digital canvas displays an evolving AI artwork, a video call on a tablet uses AI filters, and a computer setup showcases seamless code writing with AI assistance.
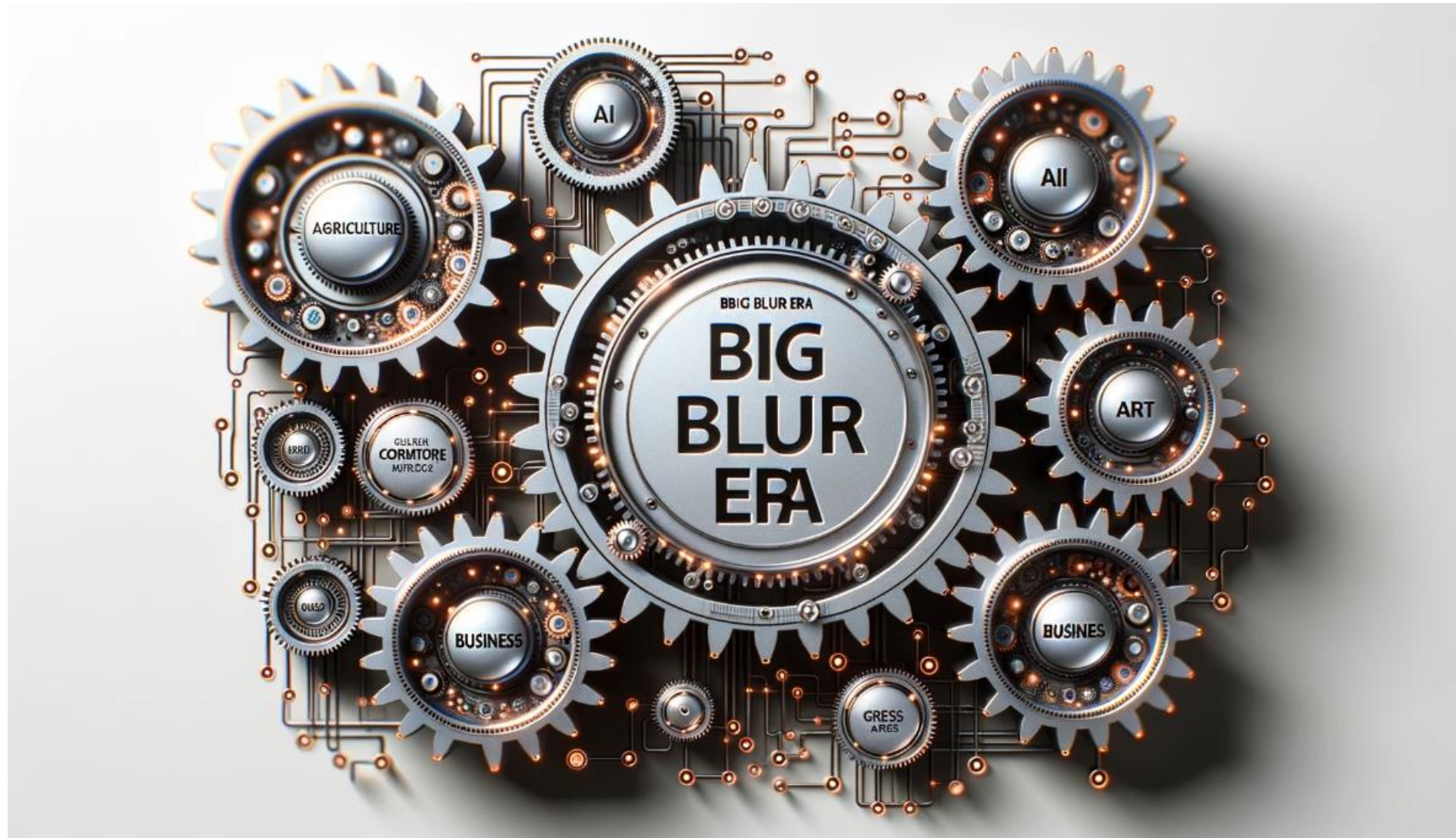
I. AI와 빅블러 시대: 다재다능한 AI

Illustration of a central AI unit, symbolized as a multifaceted crystal, sending out beams of light to various scenes. Each scene represents a different field, like healthcare, finance, entertainment, and education, showcasing AI's versatility across domains.

I. AI와 빅블러 시대: 다재다능한 AI

Vector design of a bustling city named 'Big Blur Era'. Amidst the skyscrapers, AI modules are interwoven into the infrastructure, aiding in transportation, communication, and daily tasks, emphasizing the utility of AI in this rapidly evolving age.

I. AI와 빅블러 시대: 다재다능한 AI

Render of a large gear mechanism labeled 'Big Blur Era'. Within the gears, AI circuits and nodes are seamlessly integrated, powering various sectors like agriculture, business, and arts, highlighting the indispensable role of AI in this era.
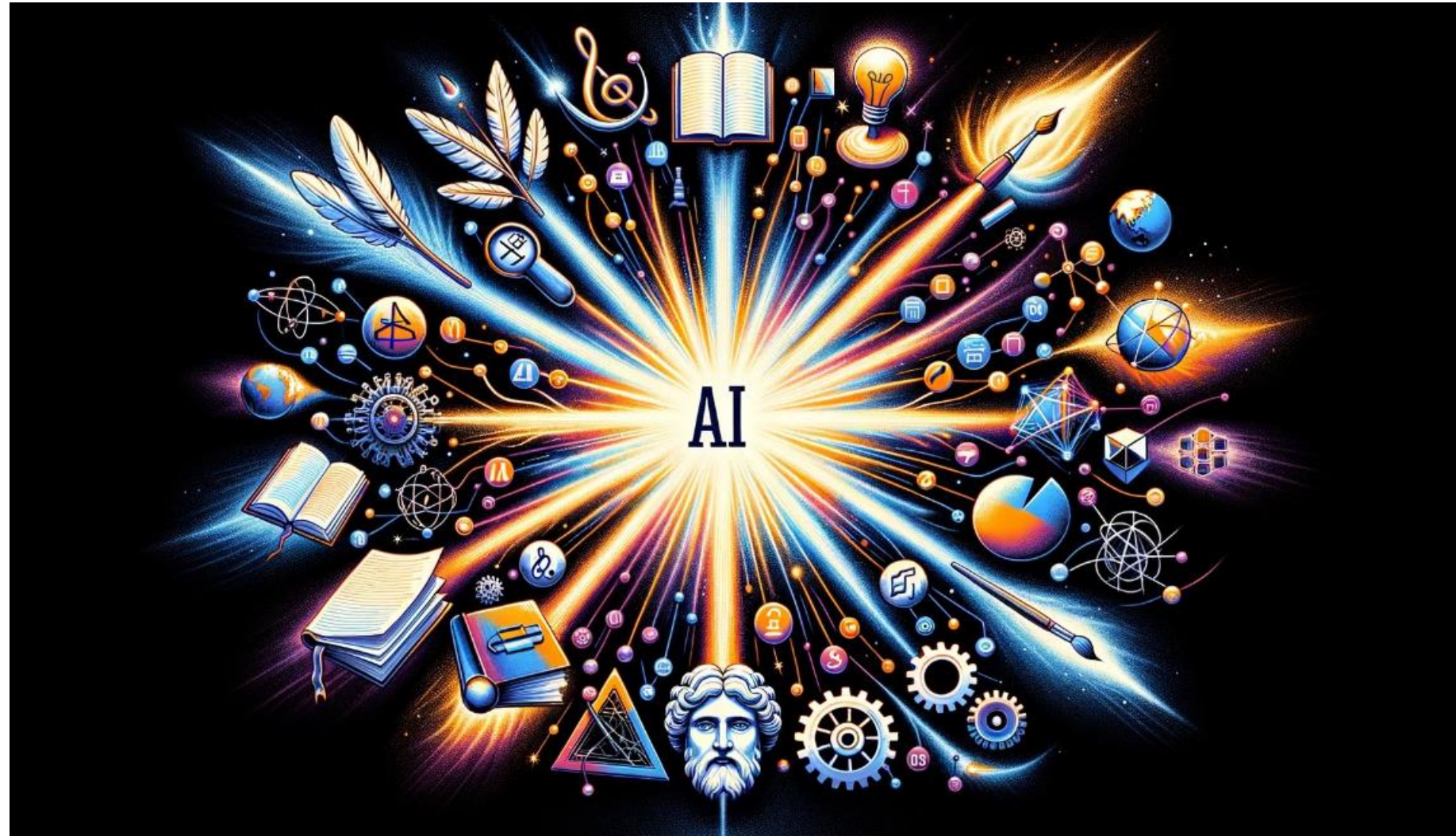
I. AI와 빅블러 시대: 다재다능한 AI

Illustration of a central AI core labeled 'Generative AI & LLM', from which beams of light extend outwards to various symbols: a quill for literature, a paintbrush for art, a musical note for music, a mathematical equation for science, gears for engineering, and a thinker statue for philosophy. These beams converge again to form a radiant explosion, symbolizing the fusion and genesis of new creations.

I. AI와 빅블러 시대: 인공지능, 기대와 우려가 교차

Digital art of a globe illuminated by countless AI circuit patterns, emphasizing the rapid growth of AI tech. The phrase 'GenAI" is prominently displayed at the center. Diverse individuals encircle the globe, their expressions a blend of hope for advancements and apprehension about employment challenges.
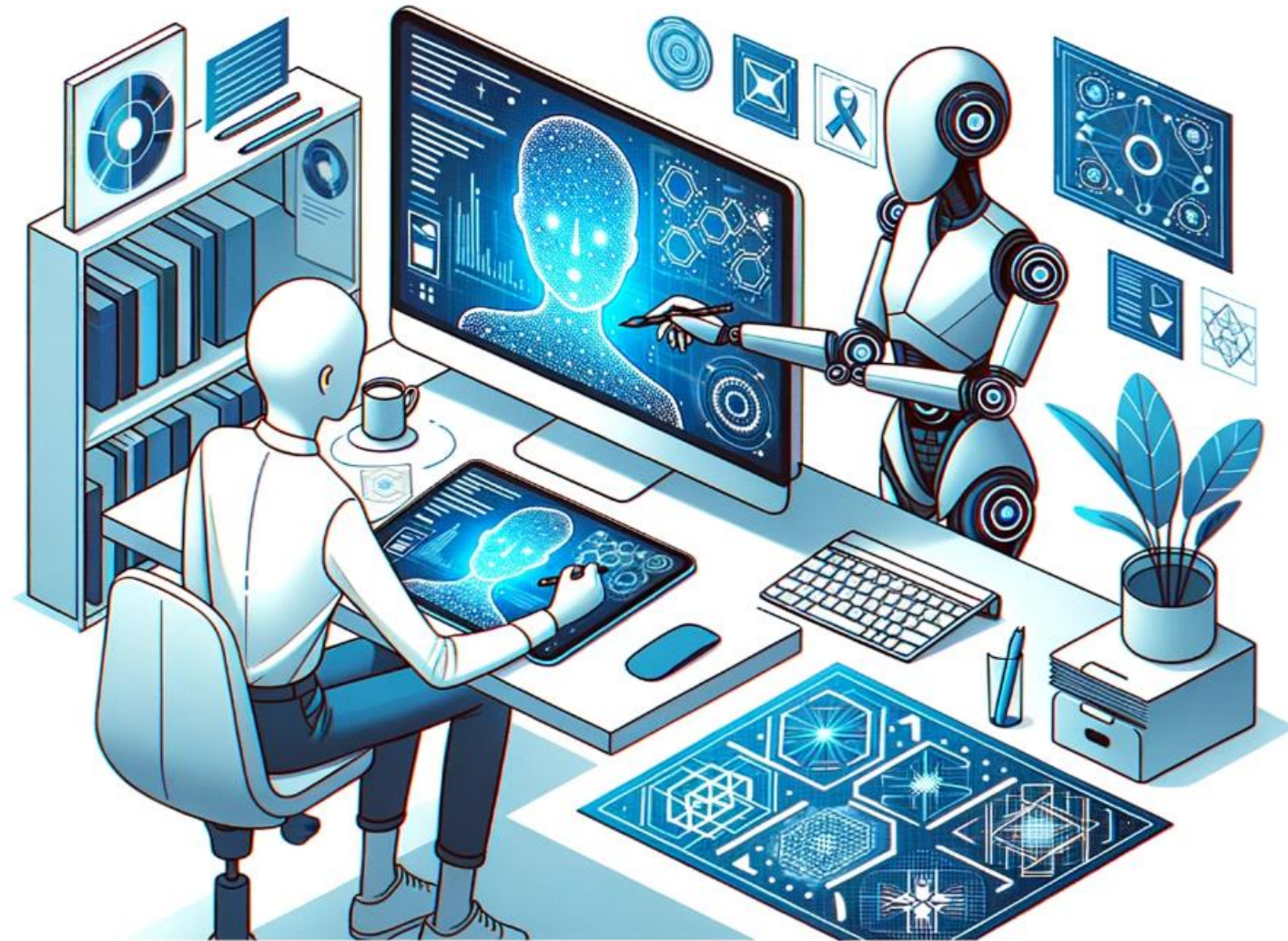
II. 일하는 방식 변화: 인간과 AI 협업 - 디자인

Illustration of a modern workspace where a human designer and their AI assistant collaborate. The designer sketches on a digital tablet while the AI suggests design patterns on a holographic screen. Both are engaged in a seamless workflow, creating a masterpiece.
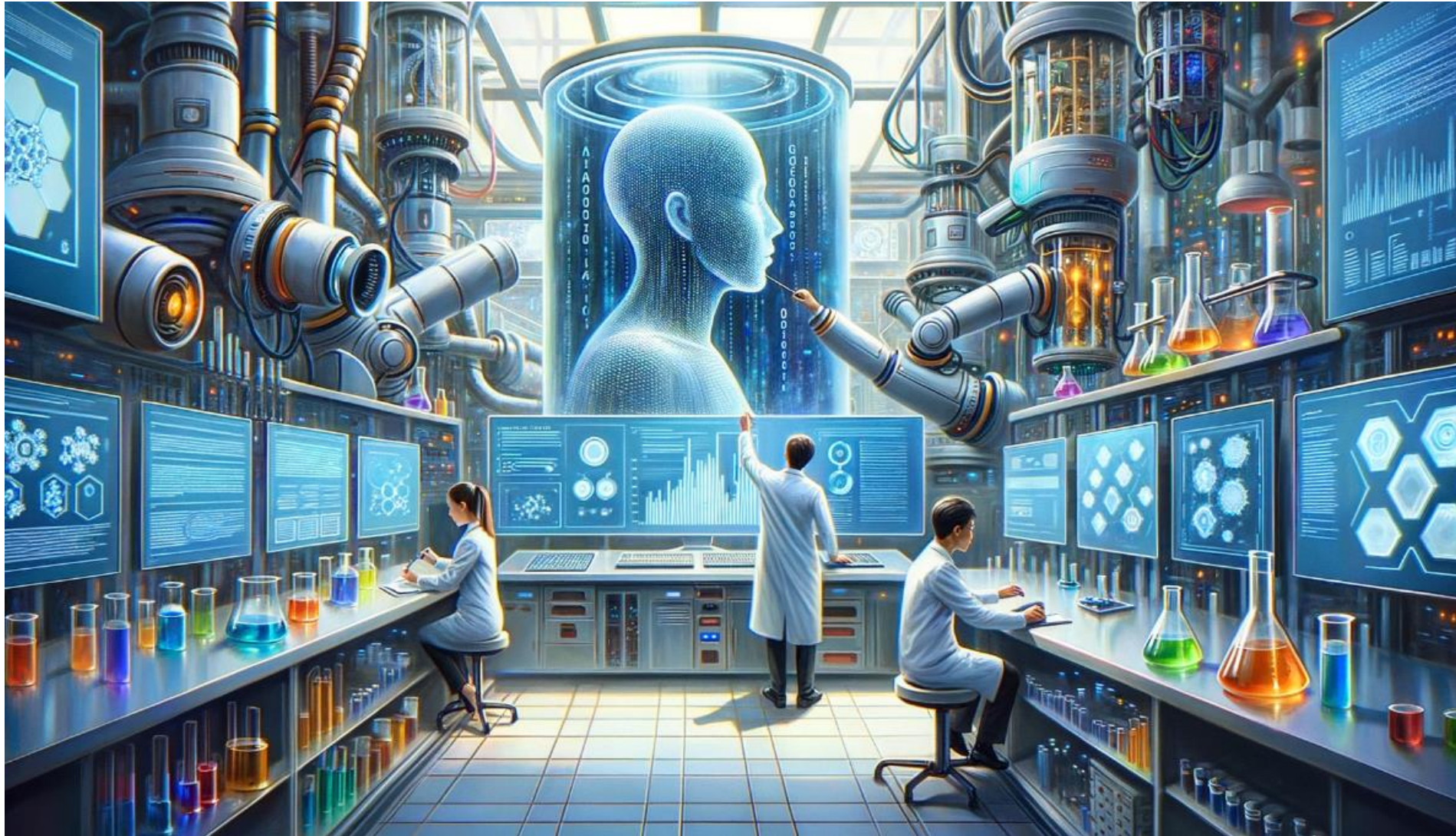
II. 일하는 방식 변화: 인간과 AI 협업 - 의사

Vector art of a medical clinic where a doctor and an AI medical assistant work side by side. The doctor examines a patient while the AI provides real-time data analysis and recommendations on a transparent display, enhancing the diagnosis process.

II. 일하는 방식 변화: 인간과 AI 협업 - 변호사

Digital rendering of a law firm setting. A lawyer is seen discussing a case with a client, while an AI legal assistant projects relevant laws, precedents, and case histories onto a smart table, aiding in the consultation.

II.일하는 방식 변화: 인간과 AI 협업 - 과학자

Oil painting of a high-tech laboratory. A scientist conducts experiments with the help of an AI research assistant. The AI processes data, simulates outcomes, and presents findings on advanced monitors, elevating the research process.

II. 일하는 방식 변화: 인간과 AI 협업 - 사무자동화

Illustration of a modern office setting where humans and AI collaborate seamlessly. Humans sit at their workstations, interacting with holographic AI assistants that provide real-time feedback, while AI modules process data and present findings on large screens.

II. 일하는 방식 변화: 인간과 AI 협업 - AI 교사.디자인.코딩

Render of a modern AI lab. One zone focuses on the AI engaged in detailed design work, another zone demonstrates the AI's prowess in coding, and a distinct zone features the AI taking on the role of a teacher, imparting knowledge to students from different parts of the world.

II. 일하는 방식 변화: 인간과 AI 협업 – 맞춤훈련.금융

Digital art of a vocational training center where humans and AI work side by side. Trainees engage with AI tutors that provide personalized lessons, financial analysts discuss strategies with AI-driven prediction systems, and educators design curricula with AI insights.
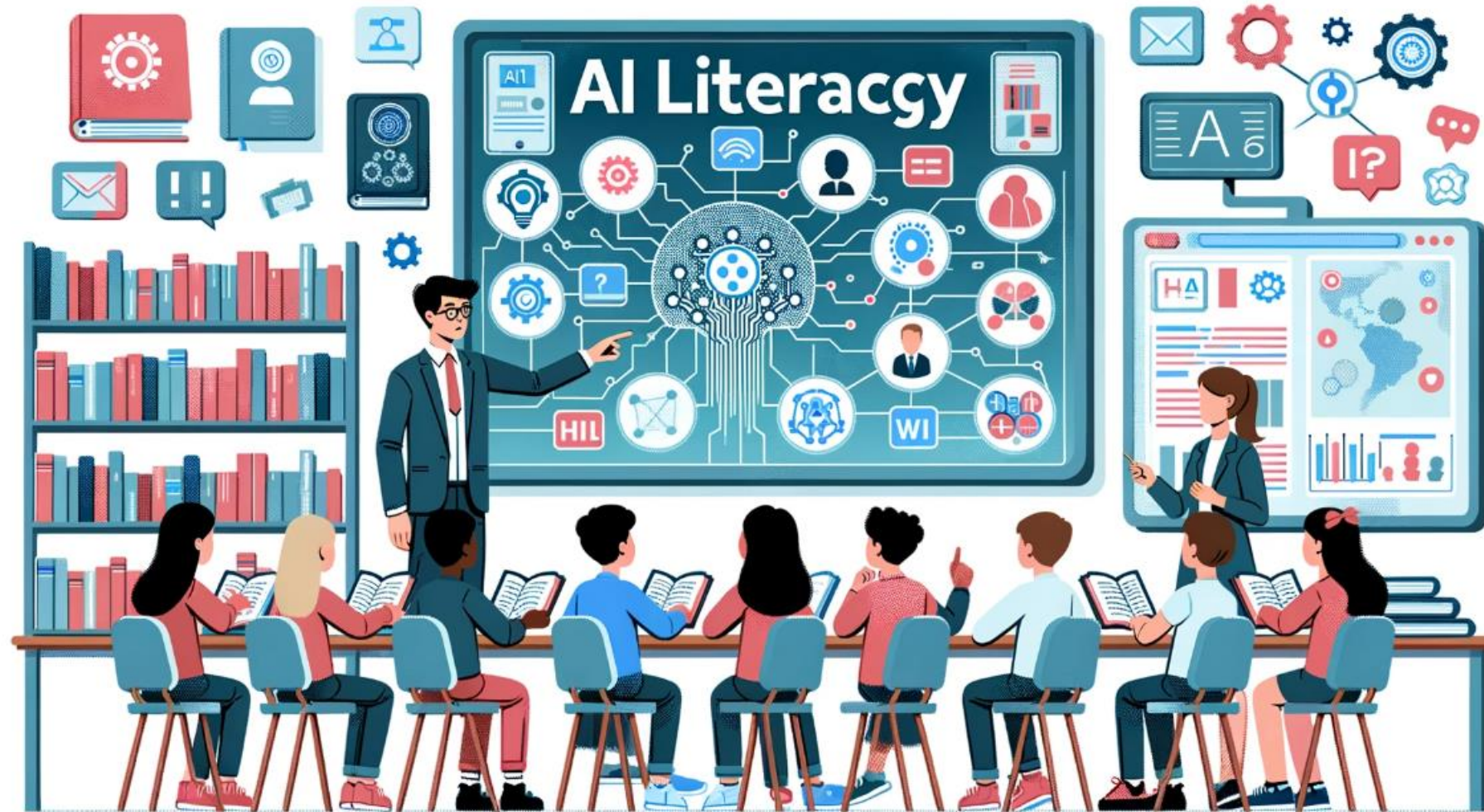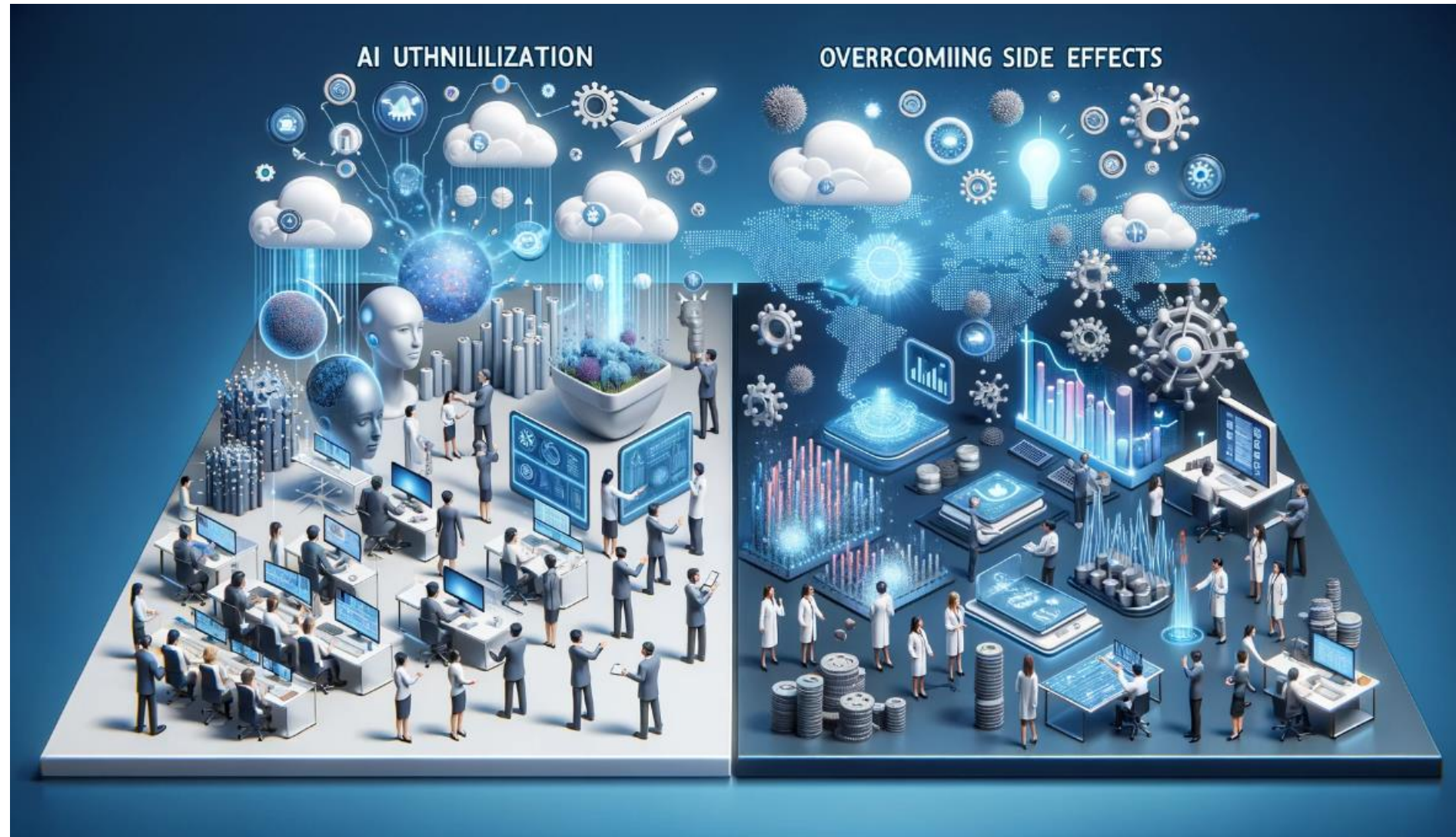
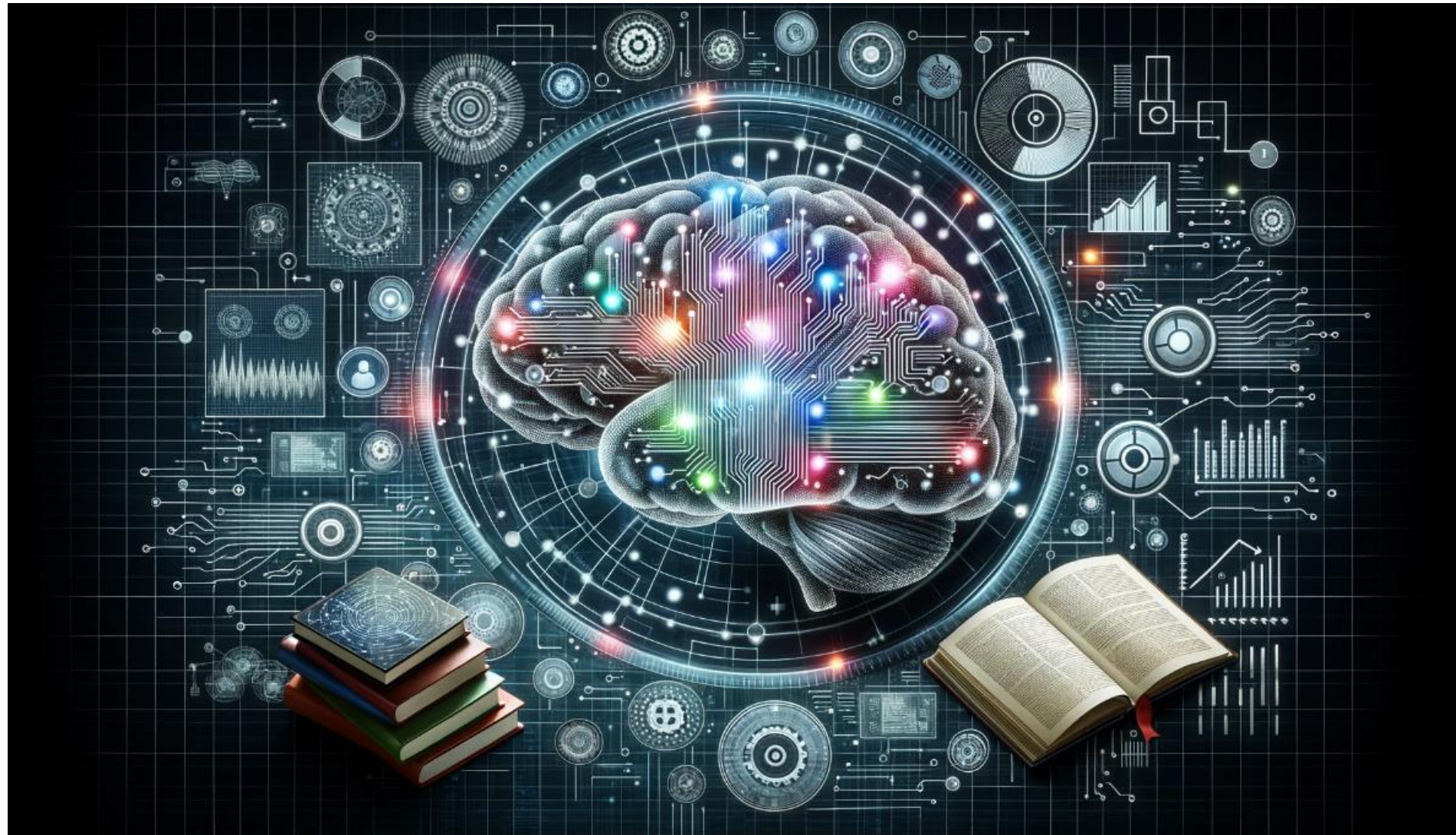# III. 요구되는 역량 변화: 1. 인공지능 리터러시

Illustration of a classroom setting where students are learning 'AI Literacy'. Books and screens depict AI concepts, while a teacher points to a diagram illustrating AI's inner workings. Students of diverse descents and genders engage actively, asking questions and discussing.
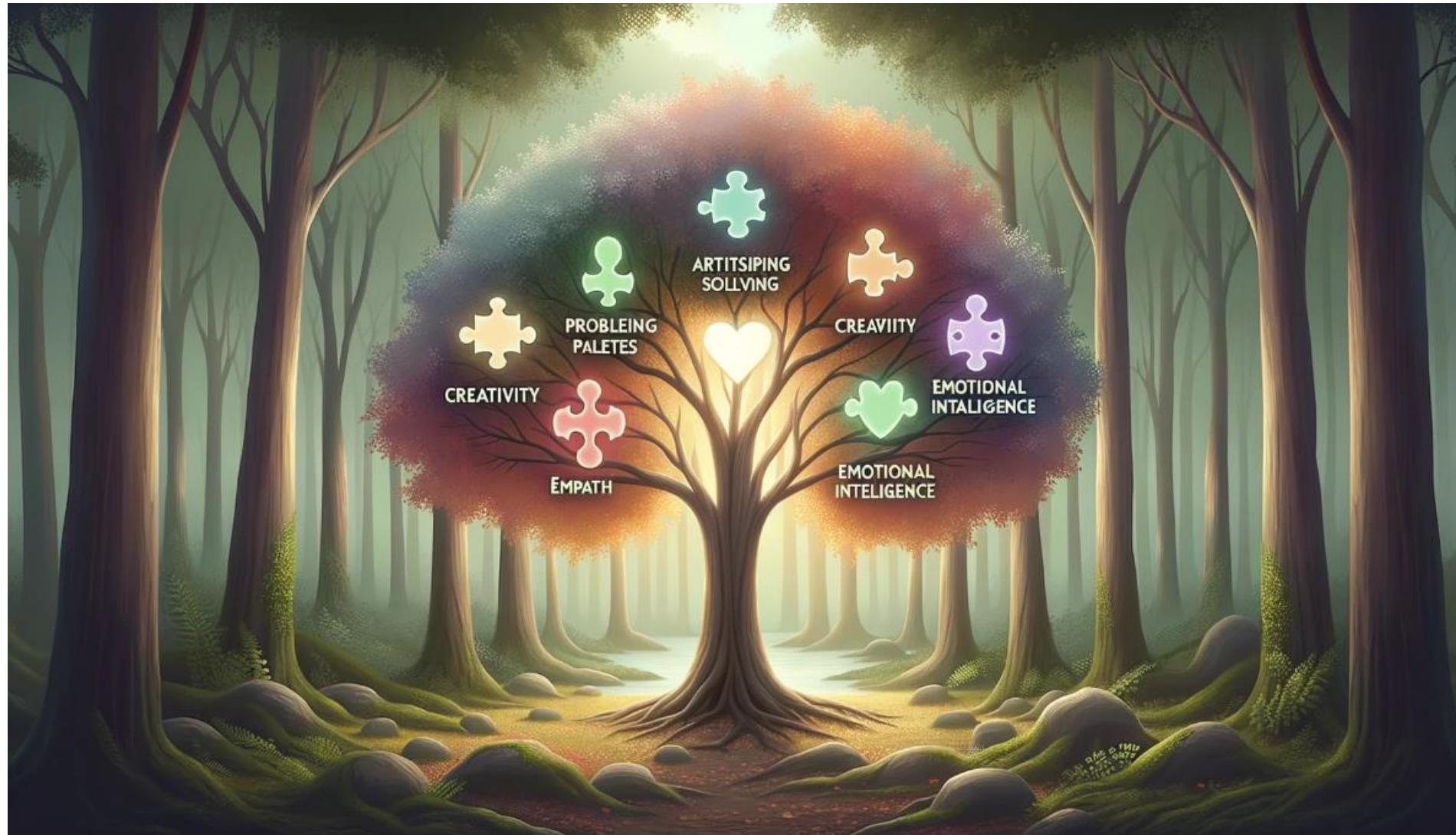
III. 요구되는 역량 변화: 1. 인공지능 리터러시

Render of a scenario addressing 'AI Utilization and Overcoming Side Effects'. On one side, professionals harness AI for various tasks, depicted in a positive light. On the opposite side, safety measures and solutions are portrayed, addressing potential AI pitfalls and challenges.

III. 요구되는 역량 변화: 1. 인공지능 리터러시

Digital art representing 'Understanding AI'. A human brain is intertwined with circuit patterns, symbolizing the merging of human thought and AI principles. Books, charts, and devices around it provide insights into AI's potential and workings.

III. 요구되는 역량 변화: 2. 소프트 스킬

Digital art of a serene forest clearing. In the center, a tree grows with branches symbolizing the soft skills: leaves shaped like puzzle pieces for problem-solving, artistic palettes for creativity, embracing figures for empathy, linking chains for collaboration, and a heart at the tree's core for emotional intelligence.

III. 요구되는 역량 변화: 2. 소프트 스킬

Render of a human silhouette filled with glowing icons. A brain maze represents problem-solving, a vibrant splash symbolizes creativity, a pulsating heart signifies empathy, interlocked arms stand for collaboration, and a balance of heart and mind showcases emotional intelligence.

III. 요구되는 역량 변화: 2. 소프트 스킬

Illustration of diverse individuals connecting their minds together, forming a radiant network of interconnected thoughts. At the center, a light bulb glows brightly, symbolizing the collective creativity and problem-solving prowess.
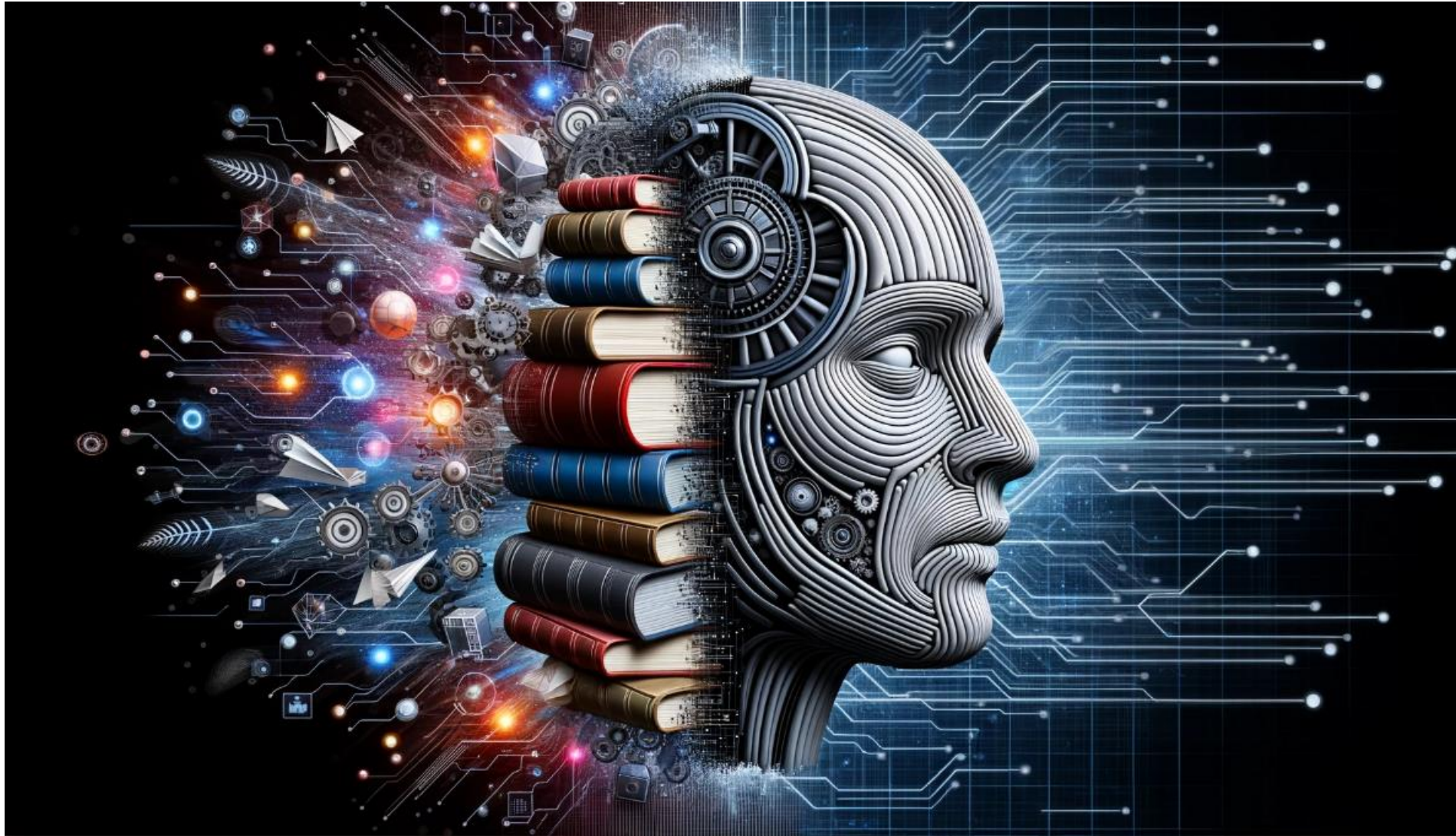
III. 요구되는 역량 변화: 3. 자기주도 학습역량

Illustration of a vast digital library where doors open to different realms of knowledge. People of various ages, descents, and genders eagerly enter, guided by AI assistants. Above, a banner reads 'Democratization of Knowledge', emphasizing easy access for all.

Ⅲ. 요구되는 역량 변화: 3. 자기주도 학습역량

Illustration of an individual standing at a crossroads. One path is filled with books, computers, and tools symbolizing self-directed learning, while the other path showcases ever-evolving tech landscapes, representing lifelong learning in the face of technological changes.

Digital art of a human figure, half comprised of traditional learning symbols like books and scrolls, and the other half integrated with advanced tech components. This blend represents the balance between self-initiative in learning and adapting to rapid technological advancements.

IV. 교육훈련 방식 변화: 1. 맞춤훈련 = HighTech

Vector design of a student engaging in a dynamic dialogue with an AI tutor. The tutor, represented by a sleek, modern interface, adjusts the training material instantly based on the student's responses, epitomizing conversational tailored training.

Ⅳ. 교육훈련 방식 변화: 1. 맞춤훈련 = HighTech

Digital art of a high-tech learning environment. Students wear VR headsets and interact with 3D simulations, each experience being unique to the user. AI algorithms work in the background, ensuring the content is personalized and up-to-date.

IV. 교육훈련 방식 변화: 1. 맞춤훈련 = HighTech

Render of an advanced education hub where students connect to individualized learning modules. Touchscreens, holograms, and AI-driven avatars cater to each student's pace and preference, emphasizing the high-tech customization of the learning process.

Illustration of a vibrant classroom where students are deeply engaged in PBL (Problem-Based Learning). They are gathered around tables, discussing, brainstorming, and working on projects. AI-assisted boards display problems to solve, while students showcase their creativity, empathy, and collaboration skills.

IV. 교육훈련 방식 변화: 2. PBL = HighTouch

Vector design of a modern educational setting emphasizing HighTouch PBL. Students interact with hands-on materials, digital interfaces, and each other. They demonstrate soft skills like creative problem-solving, empathy, and teamwork as they delve into real-world challenges.

IV. 교육훈련 방식 변화: 2. PBL = HighTouch

Render of an innovative PBL classroom where HighTouch education is the mantra. Students are seen actively participating, using both physical and digital tools, and working in teams, emphasizing the growth of their soft skills in a hands-on, student-driven learning process.

IV. 교육훈련 방식 변화: 3. 재직자 업스킬링

Illustration of a corporate training room filled with employees, both young and experienced. They're engaged in workshops and virtual classes, upgrading their skills for the 'Big Blur' era. On the walls, charts show the integration of AI literacy with traditional domain knowledge, emphasizing upskilling and reskilling.

IV. 교육훈련 방식 변화: 3. 재직자 업스킬링

Digital art of a dynamic workspace where employees collaborate and learn. Holographic projections teach AI concepts, and interactive boards display domain-specific content. This blend of old and new knowledge signifies the reskilling journey in the face of rapid tech evolution.

IV. 교육훈련 방식 변화: 3. 재직자 업스킬링

Illustration of a modern classroom labeled 'Corporate-University Contract Program'. Five individuals sit around a project table: two professionals dressed in business attire, bringing with them company challenges and datasets, and three graduate students eager to collaborate. On the wall, a timeline charts the progress from project inception to a Master's degree award ceremony.

V. 인간을 이롭게 하는 인간-기계 협업모델: 1. 환경

Illustration of a lush, restored planet Earth, where AI-driven drones plant trees, purify water, and manage renewable energy sources, emphasizing the role of AI in addressing environmental issues.

V. 인간을 이롭게 하는 인간-기계 협업모델: 2. 고령

Vector design showcasing a modern city where AI-powered robots assist elderly citizens, providing them with care, companionship, and medical assistance, highlighting AI's contribution in tackling the challenges of an aging population.

Illustration of a bustling urban setting where AI robots and drones assist humans in various tasks, from construction to healthcare, addressing the labor shortage due to low birth rates. The harmony between humans and machines showcases a human-centric collaboration model.

V. 인간을 이롭게 하는 인간-기계 협업모델: 4. 격차

Digital art of a world map where once impoverished regions now thrive. AI-driven infrastructure projects, education platforms, and economic models bridge the wealth gap, symbolizing AI's potential in reducing income inequality.

Render of a global summit where leaders of nations sit around a digital round table. In the center, an AI mediator facilitates discussions, analyzes conflicts, and proposes peaceful solutions, portraying AI's role in averting wars and fostering collaboration in a human-centric human-machine cooperation model.

경청해 주셔서
감사합니다

yeongdonna@daum.net