Overview

Program of Brain and Cognitive Engineering	Academic Department Website : bce.kaist.ac.kr
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▣ Overview

Program of Brain and Cognitive Engineering, a master's degree program offered by the KAIST Department of Bio and Brain Engineering, aims to foster creative talents who can create new knowledge and technology to improve humanity's quality of life through education and research in the field of brain and cognitive engineering.

The goal of the program is to produce world-class leaders who will lead the field of brain and cognitive engineering, through fusion education covering a variety of disciplines ranging from neuroscience and cognitive science to engineering applications such as brain engineering and cognitive engineering, brain-based artificial intelligence, and clinical applications such as psychiatry and neuroscience.

Its curriculum covers a wide diversity of disciplines ranging from basic sciences concerning brain, cognition and behavior, engineering disciplines such as cognitive neuroscience, brain-machine interface, brain-based artificial intelligence, to clinical subjects such as clinical neuroscience.

Academic and Research Activities

Brain and cognitive engineering explores cognitive thinking processes from perception to learning, memory, emotion, attention, decision making, exercise and consciousness. Based on this, it investigates engineering and clinical applications in order to improve humanity's quality of life. It is rapidly growing beyond the limitation of the existing knowledge accumulation stage in brain research.

The brain and cognitive engineering program has a broad academic impact surpassing limits of conventional research restricted to neurobiology, covering various fields from basic science to clinical applications such as psychiatry and neurology, to engineering applications such as brain engineering and cognitive engineering. Furthermore, it is expected to have a great ripple effect on society as a whole beyond the scientific community because it is closely associated with such social issues as dementia, suicide, and addiction.

- Brain and Cognitive Sciences
- Computational Neuroscience, Neuroinformatics and Brain Systems Biology
- Neuroimaging and Signal Analysis
- Clinical Neuroengineering
- Brain-Machine Interface and Neuroprosthetics
- Brain-Inspired Artificial Intelligence
- Brain-Inspired Engineering
- Neuro Cognitive Robotics
- Neural Stem Cell and Tissue Engineering