



이름: 김근태 (Keun-Tae Kim)

직위: 조교수 (Assistant Professor)

소속: 한림대학교 (Hallym University)

기타소속: 정보과학대학 (College of Information Science)

강연제목: 직관적인 보행 관련 동작 상상 기반의 뇌-컴퓨터 인터페이스를 이용한 하지 외골격 로봇 제어 시스템 (Lower-limb Exoskeleton Control System using Brain-Computer Interface based on Intuitive Gait-related Motor imagery.)

Abstract:

The recent development of a lower-limb exoskeleton is significant, considering the fact it effectively bridges between brain signals and a motor output of extremities to improve the quality of life of those with gait disabilities. This study proposed a real-time brain-computer interface (BCI)-based control system for the lower limb exoskeleton. Voluntarily induced electroencephalogram (EEG) signal during gait and sit motor imagery (MI) was decoded and translated into the exoskeleton as control commands in real-time. The experiments with body-able and -disabled participants showed that our system can potentially benefit people who may have difficulties operating manual control.

Brief Biosketch

2019 년에 고려대학교 뇌공학과에서 박사학위를 취득하였으며, 한국과학기술연구원 바이오닉스연구센터에서 2024 년까지 박사후연구원으로 근무하였고, 현재 한림대학교 정보과학대학 조교수로 재직중임. 연구분야는 뇌-컴퓨터 인터페이스, 근전도 인터페이스, 신호처리 알고리즘 등임.

Keun-Tae Kim received the Ph.D. degree in brain and cognitive engineering from Korea University, in 2019. He was a Postdoctoral Fellow at the Bionics Research Center, Korea Institute of Science and Technology, until 2024, and he is currently an assistant professor at Hallym University. His research interests include brain-computer interfaces, myoelectric interfaces, signal processing algorithm, etc.