

Curriculum Vitae

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Research Interests

Rehabilitation, Power Assistant Robotics
Myoelectric Interface
Haptic interface

Education

2008-2012 B.S in Mechanical Engineering, Chung-Ang University, Seoul, Korea
2012-2018 Ph D. in Mechanical Engineering, Pohang University of Science and Technology,
Pohang, Korea

Honors and Awards

Feb. 2014 Best Teaser Award, Haptic symposium
Nov. 2015 최우수 논문상, 한국센서학회 종합학술대회
Jun. 2018 Outstanding Paper Award, Ubiquitous Robots

Publications

Journal Articles

1. **Kim, Minjae**, et al. "Curved microneedle array-based sEMG electrode for robust long-term measurements and high selectivity." *Sensors* 15.7 (2015): 16265-16280.
2. **Kim, Minjae**, and Wan Kyun Chung. "Spatial sEMG Pattern-Based Finger Motion Estimation in a Small Area Using a Microneedle-Based High-Density Interface." *IEEE Robotics and Automation Letters* 3.1 (2018): 234-241.
3. **Kim, Minjae**, et al. "Wireless sEMG System with a Microneedle-Based High-Density Electrode Array on a Flexible Substrate." *Sensors* 18.1 (2017): 92.

Journal Articles (under review)

1. **Kim, Minjae**, and Wan Kyun Chung. " Simple and Fast Compensation of sEMG Interface Rotation for

Robust Hand Motion Recognition." *IEEE Transactions on Neural Systems & Rehabilitation Engineering*, In revision

Refereed Conference Papers

1. **Kim, Minjae**, Wan Kyun Chung. "Muscle Activation Source Model-based sEMG Signal Decomposition and Recognition of Interface Rotation." *Intelligent Robots and Systems (IROS), 2018 IEEE/RSJ International Conference on. IEEE*, 2018.
2. **Kim, Minjae**, Gangyong Gu, Wan Kyun Chung. "Pneumatic Sleeve-Assisted Stable sEMG Measurement for Microneedle Array Electrode." *Intelligent Robots and Systems (IROS), 2018 IEEE/RSJ International Conference on. IEEE*, 2018.
3. **Kim, Minjae**, Gangyong Gu, and Wan Kyun Chung. "Pneumatic Microneedle-Based High-Density sEMG Sleeve for Stable and Comfortable Skin Contact during Dynamic Motion." *Ubiquitous Robots (UR), International Conference on. IEEE*, 2018.
4. **Kim, Minjae**, Gangyong Gu, and Wan Kyun Chung. "Skin grasping sEMG interface based on microneedle array electrode." *Ubiquitous Robots and Ambient Intelligence (URAI), 2017 14th International Conference on. IEEE*, 2017.
5. **Kim, Minjae**, Dong Sung Kim, and Wan Kyun Chung. "Microneedle-based high-density surface EMG interface with high selectivity for finger movement recognition." *Robotics and Automation (ICRA), 2016 IEEE International Conference on. IEEE*, 2016.
6. Lee, J., Cho, E., **Kim, M.**, Yoon, Y., & Choi, S. (2014, February). PreventFHP: Detection and warning system for forward head posture. In *Haptics Symposium (HAPTICS), 2014 IEEE* (pp. 295-298). IEEE.
7. **Kim, Minjae**, Seongsik Park, and Wan Kyun Chung. "Flexible polymer-based micro needle array sEMG sensor." *Ubiquitous Robots and Ambient Intelligence (URAI), 2013 10th International Conference on. IEEE*, 2013.

Patents

Patents

1. 생체 신호 측정을 위한 다채널 금속바늘 어레이 전극 및 그 제조방법, 10-1689769
2. 미세 바늘 어레이 기관의 제조 방법, 10-1501283
3. 거북목 경고 시스템 및 방법, 10-1443666

Applications

1. 고민감도 신축성 변형률 측정센서를 이용한 3 차원 조작장치 및 이를 포함하는 시스템, 10-2017-0117316
2. 착용형 인터페이스 및 이를 포함하는 생체신호 측정장치, 10-2017-0049869