

Technological Directory - Graduate School and Faculty of Robotics and Design (2020)

Department of System Design

| Discipline | Field | Expertise | Keyword 1 | Keyword 2 | Keyword 3 | Open to consultations on | Lab | Researcher | Related researchers |
|-----------------------------------|------------------------------------|---|-------------------------------|---|----------------------------------|---|---------------------------|---|---|
| General | Informatics | Perception information processing / intelligent robotics | Mobile robots | Human-mechanical systems | Autonomous decentralized systems | IoT or cloud technology applications, embedded systems development, self-localization (positioning) techniques, AI applications | Intelligent Robotics Lab | Hiroyuki KOBAYASHI, Professor | |
| General | Informatics | Perceptual information processing | Speech information processing | Sensor fusion and integration | Pattern recognition | Technologies related to speech analysis, speech synthesis, speech recognition, and dialog system as well as multi-modal userinterface technologies. | Multi-modal UI design Lab | Kenji MATSUI, Professor | Yumi WAKITA, Professor [Department of Electronics Information and Communication Engineering] Sigeru OMATSU, Professor |
| Engineering | Robotics / Informatics | Intelligent Robotics, Computer Vision | Human motion analysis | Human Robot Interaction | Computer Vision | Motion capture and Motion analysis, Image Processing, Computer Vision | Human Modeling Lab | Etsuko UEDA, Professor | |
| Engineering | Information science and technology | Man-machine interface / Signal processing/Acoustic analysis | Speech processing | Human interface | Acoustic analysis | Human understanding using speech dialogue. Aggressive interaction method for Information system Multichannel sound system Sound design | Natural Interaction Lab. | Yumi WAKITA, Professor | |
| Engineering | Robotics | Nonlinear control theory, Computational neurophysiology | Adaptive control | Learning control | Motorless control | Motorless power assist system, Skill assist robots, Adaptive and learning control of industrial robots, Rehabilitation robots , Welfare devices | Biomimetic robotics Lab | Takayuki NAKAYAMA, Professor | |
| General | Robotics, Informatics | Assistive technology | Assistive device | Human interface | Rapid prototyping | Prosthesis, Assistive device | Assistive Device Lab | Masahiro YOSHIKAWA, Associate Professor | |
| Mathematical and physical science | Physics | Astrophysics | General Relativity | Cosmology | Black Holes | General relativistic phenomena in our and/or other universes. | Astrophysics Lab | Takashi TORII, Professor | |
| General | Educational Technology | Instructional Design | Problem-based Learning | Computer Supported Collaborative Learning | e-Learning | Learning experience design, Curriculum design, e-Learning content development | Information Systems Lab | Akira INOUE, Professor | |
| Engineering | Informatics | Human interface / Signal and biosignal processing | Biosignal processing | Human machine Interaction | Biological potential measurement | Biologic measurement and evaluation, processing of biosignals to estimate user's condition or movement | Human Sensing Lab | Tsuyoshi INOUE, Associate Professor | |

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| Engineering | Design | Environmental Design | Sight Behavior | Electroencephalogram | Design Thinking | Behavior Analysis, EEG analysis, Visual communication design and planning, Engineering Design | Innovation Design Engineering Lab | Hirimitsu YOKOYAMA, Assistant Professor | |
| Engineering | Informatics | Intelligent information processing | Machine learning | Stochastic information processing | Learning and Search algorithms | Image discrimination, Medical image processing, Image generation and conversion | Computational Intelligence Lab | Masataka SEO, Associate Professor | |