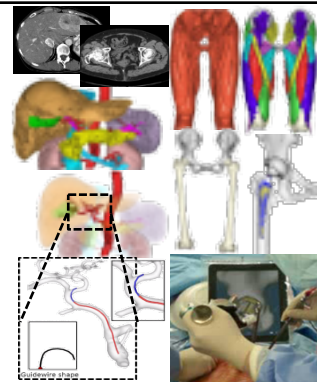


Overview (Medical Image Analysis, Biomedical Engineering, Medical Informatics)

Our research focus is development of imaging-based intelligent medical systems by close collaborations of computer scientists and medical doctors. We aim at creating future medicine through biomedical imaging integrated with information technologies such as statistical learning, biomedical simulations, and virtual reality.

Research topics

- ★ Medical image understanding based on computational anatomy.
- ★ Automated surgical planning by statistical modeling of surgical database
- ★ Optimal catheterization based on comprehensive physics simulations
- ★ Ultrasound-based augmented reality surgical navigation



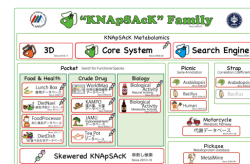
Computational Systems Biology Lab. (KANAYA Lab.)

Overview (Medical Bioinformatics, Secondary metabolite DB, Network analysis, Bioimaging, Medical Imaging)

We have developed medicinal/edible plant DB, metabolite-species, effects of metabolites and plants to human health. We also have developed a simulator for large-scale metabolism and an analyzer for molecular networks. Furthermore, we research methods of measuring and processing technology for biological function, such as MR imaging, and processing technology of medical images.

Research topics

- | | |
|---|--|
| <ul style="list-style-type: none"> ● Multifaceted plant usage database ● Visualization system of bio-networks ● Dynamic simulation of metabolic flow | <ul style="list-style-type: none"> ● Cardiac MRI ● Brain age estimation, blood flow analysis ● MR diffusion imaging |
|---|--|



Robotics Vision Laboratory (Kanade Lab.)

Overview (Computer Vision, Wearable Cameras, Deep Learning)

We focus on enhancing robotics and improving people's life quality by exploring the most of wearable cameras. Research and education will be supervised by Prof. Kanade, one of the world's foremost researchers in robotics and vision, and many other outstanding professors from Carnegie Mellon University and other world's top universities.

Research topics

- ★ Assistive Technology for Disabled/Older People
- First-Person Vision with Wearable Cameras and Mobile Computing
- Scalable Visual Recognition for Dealing with Large Amounts of Data

