Biomedical Image Computing Laboratory

Advanced computational methods for automated biomedical image analysis, health informatics and downstream data analytics to improve the reliability and throughput of imaging-and multimodal data-based diagnostics and screening.

Competitive advantage

- Over 50 years' combined experience in automated biomedical image analysis and health informatics
- Multidisciplinary R&D in biomedical image computing, visual analytics and biomedical health informatics

Impact

- Early screening and faster, more accurate diagnosis of chronic diseases
- Facilitating the discovery of imaging biomarkers
- Advancing the understanding of brain function in health and disorders
- Support for radiotherapy planning and distributed learning in medical settings
- High-throughput image analytics for drug screening

Successful outcomes

- Software for atherosclerotic carotid plaque quantification
- Automated vessel analysis for diagnosis of cardiovascular diseases
- Framework for quantitative analysis of ocular images
- Diffuse lung disease feature recognition and quantification
- Pattern recognition methods for digital histopathology
- Motion artefact removal in digital angiography
- CAD for diffuse lung disease pattern recognition
- 3-D image analysis for the improved treatment of arterio-venous malformations (AVMs)

Capabilities and facilities

- Machine and Deep learning
- GPU-based high-performance computing
- Imaging across the EM spectrum-radio waves to X-rays

Our partners

- Harvard Medical School
- Technical University, Munich
- Geneva Neuroscience Center, University of Geneva

More Information

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