Computer Vision and Pattern Recognition Laboratory

CVPRL Research Overview
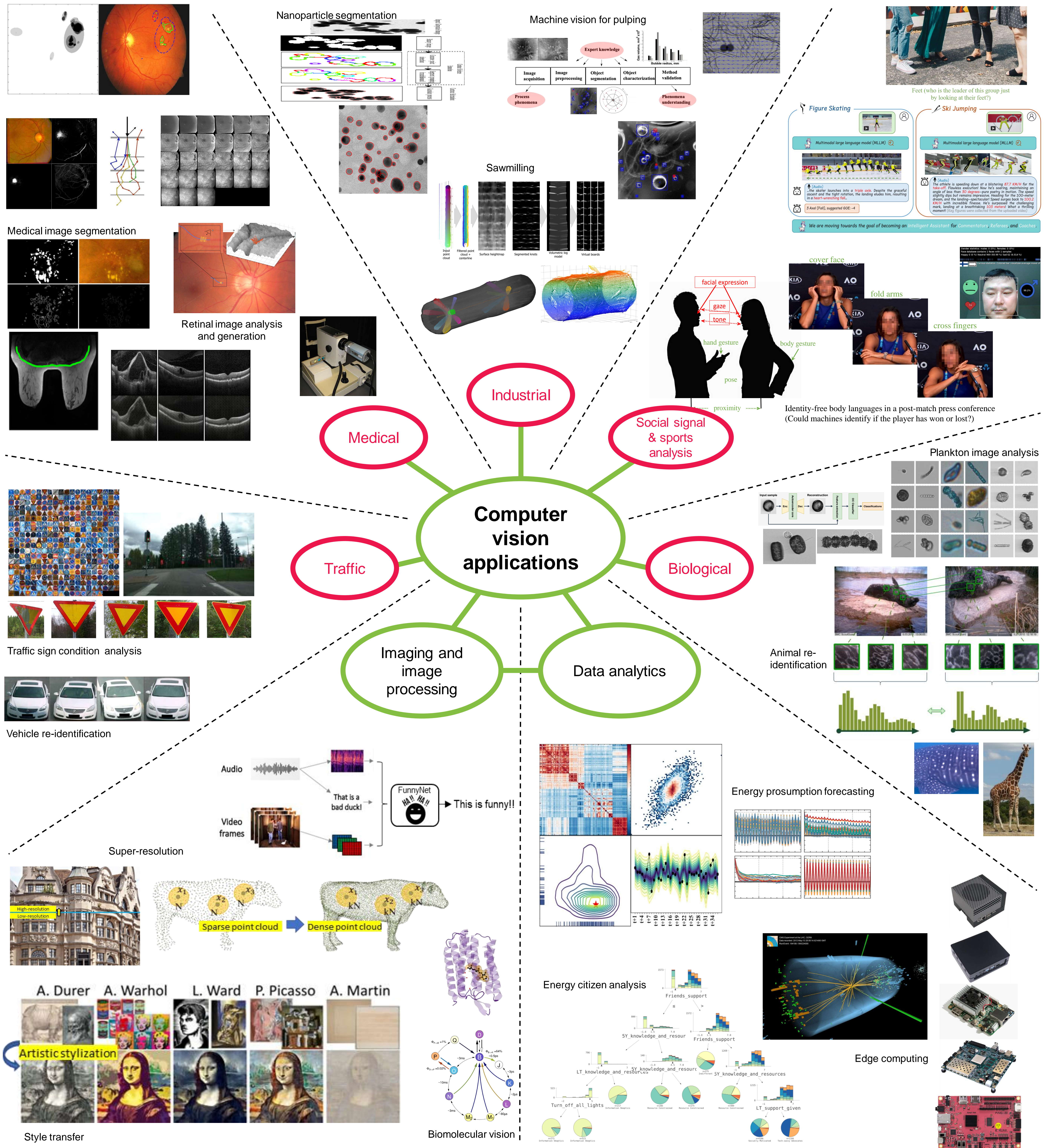
Prof. Heikki Kälviäinen   Prof. Lasse Lensu   Assoc. Prof. Tuomas Eerola   Assoc. Prof. Xin Liu   Assoc. Prof. Zhi-Song Liu

Nanoparticle segmentation

Machine vision for pulping

Feet (who is the leader of this group just by looking at their feet?)

Sawmilling

Input point cloud / Filtered point cloud + centerline / Surface heightmap / Segmented knots / Volumetric log model / Virtual boards

Medical image segmentation

Retinal image analysis and generation

facial expression

gaze / tone

hand gesture / body gesture

pose

proximity

cover face

fold arms

cross fingers

Identity-free body languages in a post-match press conference (Could machines identify if the player has won or lost?)

Plankton image analysis

Computer vision applications

- Industrial
- Medical
- Social signal & sports analysis
- Traffic
- Biological
- Imaging and image processing
- Data analytics

Animal re-identification

Traffic sign condition analysis

Vehicle re-identification

Energy prosumption forecasting

Audio

That is a bad duck!

FunnyNet → This is funny!!

Video frames

Super-resolution

Sparse point cloud → Dense point cloud

High-resolution / Low-resolution

A. Durer   A. Warhol   L. Ward   P. Picasso   A. Martin

Artistic stylization

Style transfer

Biomolecular vision

Energy citizen analysis

Friends_support

SY_knowledge_and_resour / Friends_support

LT_knowledge_and_resources / SY_knowledge_and_resource / SY_knowledge_and_resources

Turn_off_all_lights / LT_support_given

Edge computing