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Comper Vision and Media Lab (CVM)

Our research interests have a wide spectrum: multimedia, computer vision, pattern recognition, machine learning, natural language processing, and computer graphics. We are interested not only in fundamental problems but also business-level applications using our technologies. We have a lot of collaboration projects with industory and academia.

Attractiveness Computing

We are interested in analyzing why and how we get attracted to specific persons, contents, and services. We have been trying to predict, analyze, and even enhance such "attractiveness" or "sympathy" using multimedia big data. We are not doing research on application oriented topics, but trying to solve the research problems behind them.

- Analysis of presentation, lectures, interviews, etc.
- Effects prediction of ads and product design
- Social popularity analysis and enhancement in SNSs
- Analysis and recommendation of influencers
- Consumer behavior analysis and marketing
- Matching and recommendation
- Fashion image analysis and recommendation
- Image/video editing (design, Instagrammability, etc.)
- Property tech (PropTech) using AI and IoT
- Video summarization and mash-ups
- Attractive description generation
- AI-assisted education

Machine Learning Frontiers

We have been working on fundamental machine learning problems. We are interested in developing novel research problems or fields rather than extending existing algorithms.

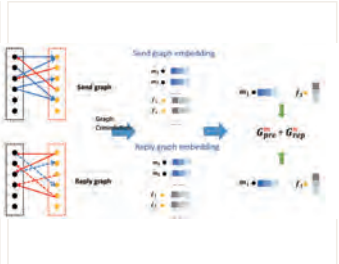
- Enhancement of ML algorithms
- Self-supervised learning and contrastive learning
- Semi-supervised learning for large-scale data
- Learning with few/imperfect training data
- Recognizing/Understanding/Summarizing videos
- Knowledge distillation
- DeepFake detection and classification
- Attack and defence using adversarial attacks
- Content generation using GANs and style transfer
- Explainable AI
- Mechanism analysis in DNNs
- Video understanding

Other Challenging Problems

We are also challenging new research topics aiming at widening our research activities.

- IoT sensor design
- Nursery school and elderly care house sensing
- Environment sensing using our own IoT devices
- Medical applications using SNSs and online chat
- Medical image analysis

Presentation Analysis



Graph Analysis for SNSs

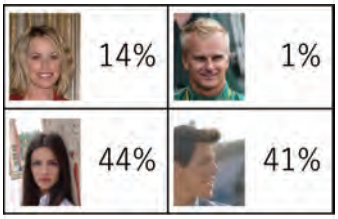
Fashion Retrieval and Recomm.

PropTechs using ML

Style Transfer using ViT

Explainable AI

Deep Fake Detection



Bias in Datasets

IoT sensor

Property Sensing