Our Research: Human-centered Behavioral Signal Processing (BSP)

Seek a window into human mind and traits...



...through engineering approach



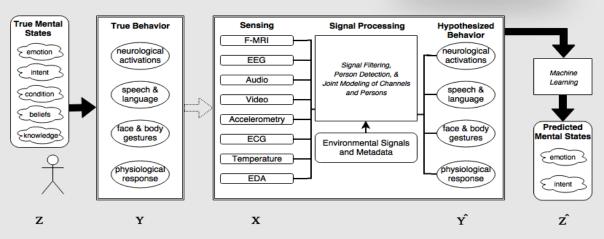
Prof. Shrikanth Narayanan

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Behavioral Informatics and Interaction Computation Laboratory (BIIC)



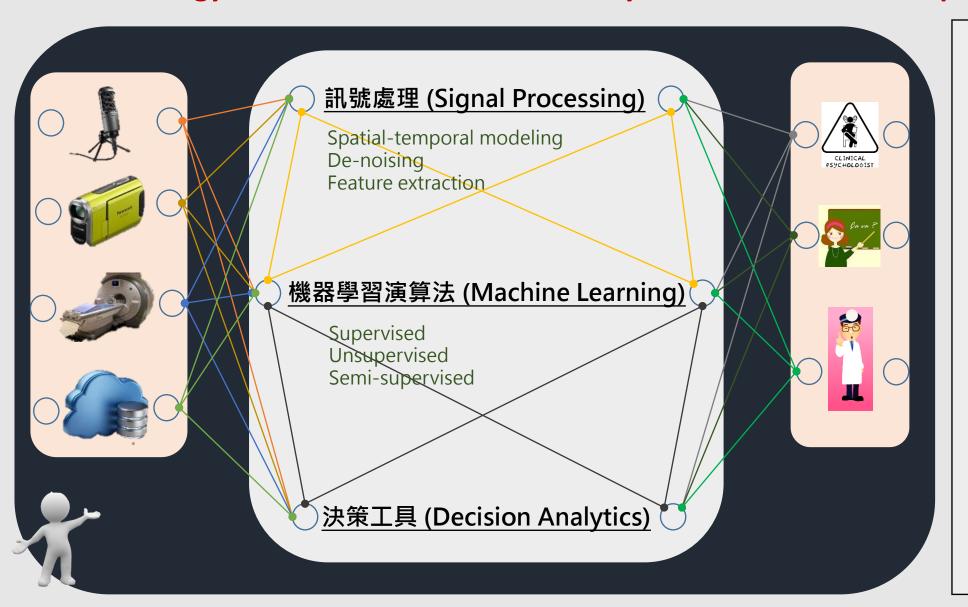




S. Narayanan and P. G. Georgiou, "Behavioral signal processing: Deriving human behavioral informatics from speech and language," Proceedings of the IEEE, vol. 101, no. 5, pp. 1203–1233, 2013.

Daniel Bone, Chi-Chun Lee, Theodora Chaspari, James Gibson, Shrikanth Narayanan, "Signal Processing and Machine Learning for Mental Health Research and Clinical Applications", in IEEE Signal Processing Magazine

Our Technology: Human-centric Decision Analytics Research & Development



Core Technology

Speech & Language
Diarization, SpeakerID, ASR,
Paralinguistic Descriptors, EmotionAI, Sentiment, Word-topic
Representation

Computer Vision
Segmentation, Tracking, ImageVideo Descriptors

Multimodal Fusion

Joint speech-language-gesture

modeling for multimodal prediction, Multi-party interaction modeling

Representation Learning

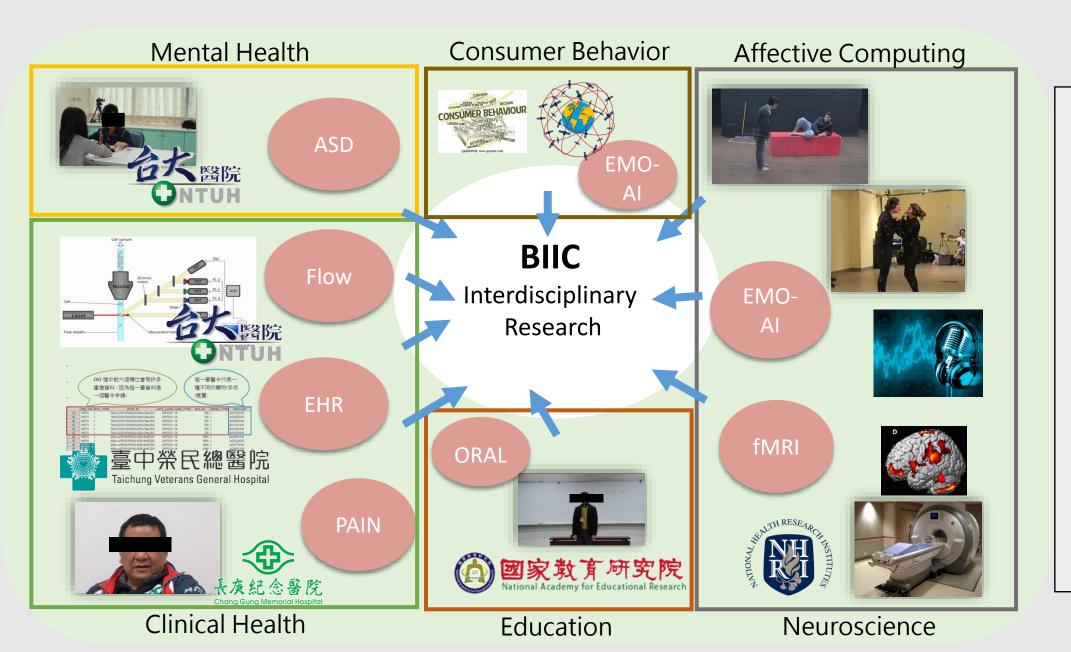
Behavior embedded space learning, clinical health informatics data representation

Predictive Learning

Deep-learning, machine learning based predictive modeling

High-dimensional Behavior Space, Non-linear Predictive Recognition, Multimodal Integration, Experts Decision Mechanism

Our Application: Human-centered Exemplary BSP Domains



KEY APPLICATIONS

Affective Computing

Mental Health

Clinical Health

Education

Neuroscience

Consumer Behavior

