Yuya Moroto

CONTACT INFORMATION

E-mail: moroto@lmd.ist.hokudai.ac.jp
Web: www-lmd.ist.hokudai.ac.jp/y-moroto/

RESEARCH INTERESTS

My researches lie in affective computing, especially, how to make computers understand the semantics perceived by humans. I am interested in the relationships between multimedia contents and biological signals, and then apply techniques from various fields such as multi-modal machine learning, probabilistic generative model, tensor analysis and so on.

EDUCATION

Hokkaido University, Hokkaido, Japan — Apr 2021 - Present
Ph.D. Student in Information Science and Technology
Adviser: Miki Haseyama

Hokkaido University, Hokkaido, Japan — Apr 2019 - Mar 2021
M.S. in Information Science and Technology
Adviser: Miki Haseyama

Hokkaido University, Hokkaido, Japan — Apr 2015 - Mar 2019
B.E. in Electronics and Information Engineering
Adviser: Miki Haseyama

PUBLICATIONS

Peer-reviewed journals

[J1] Human-Centric Emotion Estimation Based on Correlation Maximization Considering Changes with Time in Visual Attention and Brain Activity.
Yuya Moroto, Keisuke Maeda, Takahiro Ogawa and Miki Haseyama.
IEEE Access, 2020. (2019IF 3.745)

[J2] Few-shot Personalized Saliency Prediction Based on Adaptive Image Selection Considering Object and Visual Attention.
Yuya Moroto, Keisuke Maeda, Takahiro Ogawa and Miki Haseyama.
Sensors, 2020. (2019IF 3.275)

[J3] Tensor-Based Emotional Category Classification via Visual Attention-Based Heterogeneous CNN Feature Fusion.
Yuya Moroto, Keisuke Maeda, Takahiro Ogawa and Miki Haseyama.
Sensors, 2020. (2019IF 3.275)

Other japanese Journal: 1 paper (See my web page for details)

Selected peer-reviewed international conferences (Regular papers)

[C1] Affective Embedding Framework with Semantic Representations from Tweets for Zero-shot Visual Sentiment Prediction.
Yingrui Ye, **Yuya Moroto**, Keisuke Maeda, Takahiro Ogawa and Miki Haseyama.
ACM Multimedia Asia, 2022.

[C2] Visual Sentiment Prediction Using Cross-way Few-Shot Learning Based on Knowledge Distillation.
Yingrui Ye, **Yuya Moroto**, Keisuke Maeda, Takahiro Ogawa and Miki Haseyama.
IEEE International Conference on Image Processing (ICIP), 2022.

[C3] Few-shot Personalized Saliency Prediction with Similarity of gaze Tendency Using Object-based Structual Information.

Yuya Moroto, Keisuke Maeda, Takahiro Ogawa and Miki Haseyama.
IEEE International Conference on Image Processing (ICIP), 2022.

[C4] Human Emotion Recognition Using Multi-Modal Biological Signals Based on Time Lag-Considered Correlation Maximization.
Yuya Moroto, Keisuke Maeda, Takahiro Ogawa and Miki Haseyama.
IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP), 2022.

[C5] Few-Shot Personalized Saliency Prediction Using Person Similarity Based on Collaborative Multi-Output Gaussian Process Regression.
Yuya Moroto, Keisuke Maeda, Takahiro Ogawa and Miki Haseyama.
IEEE International Conf. Image Processing (ICIP), 2021.

[C6] Estimation of Emotion Labels via Tensor-based Spatiotemporal Visual Attention Analysis.
Yuya Moroto, Keisuke Maeda, Takahiro Ogawa and Miki Haseyama.
IEEE International Conf. Image Processing (ICIP), 2019.

Other peer-reviewed international conferences: 9 paper (See my web page for details)

Domestic conference: 13 papers (See my web page for details)

Awards

2021 IEEE Sapporo Section Student Paper Contest 2022

The 2021 IEEE Sapporo Section Encouragement Award 2022

Student Encouragement Award, 2021
Institute of Electronics, Information and Communication Engineers, Hokkaido

IEEE LifeTech2021 Excellent Poster (On-site) Award Winners: Bronze Prize 2021

Best Young Paper Presentation Award, 2020
Japanese Conf. Institutes of Electrical and Information Engineers,
in Hokkaido Section

The 2019 IEEE Sapporo Section Student Paper Contest Encouraging Prize 2020

2nd Prize IEEE LifeTech2019 Excellent Paper Award 2019

IEEE GCCE2018 Outstanding Paper Award 2018

Fellowship and Grants

JSPS Research Fellowships for Young Scientists Apr 2021 - Mar 2024
Fellowship for DC1 (Acceptance rate: 20% 54/267)

NITORI International Scholarship Foundation Apr 2020 - Mar 2022
Scholarship for Future IT Human Resources (1,920,000JPY)

JEES · Mitsubishi Corporation Apr 2020 - Mar 2022
Science and Technology Scholarship
Scholarship for Ph.D students in science and engineering fields (1,300,000JPY)

Teaching Experiences

Teaching Fellow at Hokkaido University in Japan

Provided significant assistance to promote student understanding in the following lectures.

Media Network Laboratory IA 2021

Teaching Assistant at Hokkaido University in Japan

Assisted to promote student understanding in the following lectures.

Can robots have emotions?	2019-2021
Media network laboratory IA	2019-2022
Media network laboratory IIB	2019-2022
Exercise in media network I	2019-2022
Exercise in media network II	2019-2022
Collaborative liberal arts education classes at national universities in Hokkaido, Japan	2019-2021

Part-time Lecturer at Hokkai Gakuen University in Japan

Gave a lecture on Java programming for bachelor students in the department of electronics and information engineering

Project Practice 2021-2022

Research Experiences

Haseyama Ogawa Lab., Hokkaido University Nov 2017 - Present

Adviser: Miki Haseyama

Worked on machine learning techniques using multi-modal biological signals.

CyberAgent AI Lab. Sep 2021 - Oct 2021

Adviser: Yasunori Ozaki

Worked on machine learning techniques for digital signage.

Developments

KANADE-III (Tourist spot recommendation system)

URL: lmd-demo.org/kanade-iii

Recommendation system based on biological signals

URL: lmd-demo.org/2022

Technical Skills

Languages:

Japanese(Native), English(TOEIC:680)

Programming

Python, Matlab, R, C/C++, Java, JavaScript, HTML/CSS, Ruby, GAS, VBA

Libraries

Tensorflow, PyTorch, Theano, Keras, Flask, MySQL, OpenCV, OpenVINO

Measuring Instruments

functional Near-Infrared Spectroscopy (fNIRS), functional Magnetic Resonance Image (fMRI), Eye Tracker (Glass and installation type), Motion capture (Perception Neuron, kinect), Real-time physiological sensor (Empatica E4)

Others

Git, Git Hub, Docker, Amazon Web Service, Adobe CC (Illustrator, Premiere Pro, Audition), Google Colaboratory, WSL, VMware