

CURRICULUM VITAE Aug. 24th 2018

Takatsugu Hirayama

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RESEARCH INTEREST

Computer Vision (face recognition, gaze tracking, visual attention modeling, action recognition) and Human Computer Interaction (multi-modal interaction design, internal state estimation, interaction dynamics analysis). Recent main topics: mining of unique spatio-temporal patterns and gaze behavior modeling of those with professional skill (e.g. car driver, sports player, artist).

EDUCATION

2002-2005 Ph. D. in Engineering, Osaka University, Japan.

Topic: Face Authentication Technologies for Security System FACELOCK

2000-2002 Master of Engineering, Osaka University, Japan.

1998-2000 Bachelor in Engineering, Kanazawa University, Japan.

GRANTS

- Grant-in-Aid for Scientific Research of the Ministry of Education, Culture, Sports, Science and Technology of Japan (900,000yen), 2016.
 - Grant-in-Aid for Scientific Research of the Ministry of Education, Culture, Sports, Science and Technology of Japan (900,000yen), 2015.
 - Grant-in-Aid for Scientific Research of the Ministry of Education, Culture, Sports, Science and Technology of Japan (1,100,000yen), 2014.
 - Grant-in-Aid for Scientific Research of the Ministry of Education, Culture, Sports, Science and Technology of Japan (1,000,000yen), 2013.
 - Grant-in-Aid for Scientific Research of the Ministry of Education, Culture, Sports, Science and Technology of Japan (1,000,000yen), 2012.
 - Grant-in-Aid for Scientific Research of the Ministry of Education, Culture, Sports, Science and Technology of Japan (1,200,000yen), 2011.
- and 3 research grants from domestic foundations.

AWARDS

- 16th IEEE International Symposium on Multimedia, Best paper award, 2014.

- IEICE ISS, Best paper award, 2014.
- 8th ACM Symposium on Eye Tracking Research and Applications, Best short paper award, 2014.
- Best paper award at the Human Interface Society of Japan, 2008.
- Honor student award from Nara National College of Technology, 1998.

PROFESSIONAL SERVICES

Organizing committee member

- The 8th Biennial Workshop on DSP for In-Vehicle and Mobile Systems 2018
- The 8th International Workshop on Human Behavior Understanding (HBU) in conjunction with the 2nd International Workshop on Automatic Face Analytics for Human Behavior Understanding (FaceHUB) 2018
- ACM International Conference on Multimodal Interaction 2016 (ICMI'16)
- ACM International Conference on Multimodal Interaction 2013 (ICMI'13)
- International Joint Workshop on Advanced Sensing/Visual Attention and Interaction 2013
- ACM Multimedia 2012

Program committee member

- International Workshop on Attention/Intention Understanding 2018
- International Workshop on Attractiveness Computing in Multimedia 2017
- The First International Workshop on Human Activity Analysis with Highly Diverse Cameras (HDC) 2017
- International Workshop on Attractiveness Computing in Multimedia 2016
- IEEE Conference on Face and Gesture Recognition 2011 (FG'11)

Local arrangement member

- International Conference on Computer Vision 2009 (ICCV'09)

Associate editor

- IEICE Transactions on Information and Systems, 2015-2019

Guest editor

- Journal of Advanced Transportation, Special issue on Big Data and Artificial Intelligence Applied to Intelligent Vehicles, 2019

Reviewer for international journal

- IEEE Transactions on Intelligent Vehicles, International Journal of Biometrics,

User Modeling and User-Adapted Interaction, Transactions on Interactive Intelligent Systems, Journal of Circuits, Systems, and Computers, IEICE Transactions, IPSJ Transactions, Journal of Information Processing

Reviewer for international conference

- Ubicomp, ICMI, ETRA, ISWC, Augmented Human, ACM, ICPR, ACPR, FG, ICDAR, MVA, HDC, IV, ITSC, IEA-AIE

ACADEMIC EMPLOYMENT HISTORY

2017-	Designated Associate Professor Institutes of Innovation for Future Society, Nagoya University, JP.
2014-2017	Designated Associate Professor Graduate School of Information Science, Nagoya University, Japan.
2012-2014	Assistant Professor Graduate School of Information Science, Nagoya University, Japan.
2011-2012	Research Assistant Professor Graduate School of Information Science, Nagoya University, Japan.
2005-2011	Research Assistant Professor Graduate School of Informatics, Kyoto University, Japan.

MAJOR PROJECTS

2017-	Research Fellow Improving Intellectual Capability to Enhance “a Socially Active Life” for Overcoming the Reducing Labor Force, “Design of Intelligent Machines Coexisting with Human Society based on Fusion of Cognitive Science and Control Engineering”, JST MIRAI.
2013-	Research Fellow Nagoya University COI Mobility Innovation Center, JST COI.
2012	Visiting Researcher University of British Columbia, Canada. Fostering of Homo Informatics Based on International Research Collaboration, “Institutional Program for Young Researcher Overseas Visits”, JSPS.

- 2011-2014 **Research Fellow**
Modeling and Detecting Overtrust from Behavior Signals, “Creation of Human-Harmonized Information Technology for Convivial Society”, JST CREST.
- 2006-2011 **Research Fellow**
Foundations for Human-centered Communication in the Information Explosion Era, “New IT Information for the Information-explosion Era”, MEXT Grant-in-Aid for Scientific Research on Priority Areas.
- 2005-2006 **Research Fellow**
Understanding Human Information Processing and Its Applications, “Informatics Studies for the Foundation of IT Evolution”, MEXT Grant-in-Aid for Scientific Research on Priority Areas.
- 2004-2005 **Research Assistant**
Initiative of Systems and Human Science for Safe, Secure and Reliable Society, JSPS Grant-in-Aid for Scientific Research.
- 2002-2004 **Research Assistant**
Construction of KANSEI Emergence World based on Synergetic Interaction, “KANSEI (Intuitive & Affective) Human Interface”, JSPS Research for the Future Program.

A LIST OF PUBLICATION

Referred Journal Papers

1. **Takatsugu Hirayama**, Jean-Baptiste Dodane, Hiroaki Kawashima, Takashi Matsuyama, "Estimates of User Interest Using Timing Structures between Proactive Content-display Updates and Eye Movements," IEICE Transactions on Information and Systems, Vol.E-93D, No.6, pp.1470-1478, 2010.
2. Ryo Yonetani, Hiroaki Kawashima, **Takatsugu Hirayama**, Takashi Matsuyama, "Mental Focus Analysis Using the Spatio-temporal Correlation between Visual Saliency and Eye Movements," Journal of Information Processing, Vol.52, No.12, 2011.
3. Akisato Kimura, Ryo Yonetani, **Takatsugu Hirayama**, "Computational Models of Human Visual Attention and Their Implementations: A Survey," IEICE Transactions on Information and Systems, Vol.E96-D, No.3, pp.562-578, 2013.
4. **Takatsugu Hirayama**, Kenji Mase, Kazuya Takeda, "Analysis of Temporal Relationships between Eye Gaze and Peripheral Vehicle Behavior for Detecting Driver Distraction," International Journal of Vehicular Technology, Vol.2013, Article ID 285927, 2013.

5. Shohei Usui, Fujio Toriumi, Masato Matsuo, **Takatsugu Hirayama**, Kenji Mase, "Greedy Network Growth Model of Social Network Service," *Computational Intelligence and Intelligent Informatics*, Vol.18, No.4, pp.590-597, 2014.
6. Michimasa Inaba, Naoyuki Iwata, Fujio Toriumi, **Takatsugu Hirayama**, Yu Enokibori, Kenichi Takahashi, Kenji Mase, "Statistical Response Method and Learning Data Acquisition Using Gamified Crowdsourcing for a Non-task-oriented Dialogue Agent," *Lecture Notes in Computer Science*, Vol.8946, pp.119-136, Springer, 2015.
7. Shohei Usui, Fujio Toriumi, **Takatsugu Hirayama**, Yu Enokibori, Kenji Mase, "Why Did False Rumors Diffuse after the 2011 Earthquake off the Pacific Coast of Tohoku? Impact Analysis of the Network Structure," *Electronics and Communications in Japan*, Vol.98, No.9, pp.1-13, 2015.
8. Xueting Wang, **Takatsugu Hirayama**, Kenji Mase, "Viewpoint Sequence Recommendation Based on Contextual Information for Multiview Video," *IEEE MultiMedia*, Vol.22, No.3, pp.40-50, 2015.
9. **Takatsugu Hirayama**, Toshiya Ohira, Kenji Mase, "Top-down Visual Attention Estimation Using Spatially Localized Activation Based on Linear Separability of Visual Features," *IEICE Transactions on Information and Systems*, Vol.E98-D, No.12, pp.2308-2316, 2015.
10. Kensho Hara, **Takatsugu Hirayama**, Kenji Mase, "Simultaneous Recognition of Human Action and Its Location Estimation Based on Multiview Hough Voting," *Electronics and Communications in Japan*, Vol.99, No.1, 2016.
11. Kensho Hara, **Takatsugu Hirayama**, Kenji Mase, "Vote Distribution Model for Hough-based Action Detection," *IEICE Transactions on Information and Systems*, Vol.E99-D, No.11, pp.2796-2808, 2016.
12. **Takatsugu Hirayama**, Kenji Mase, Chiyomi Miyajima, Kazuya Takeda, "Classification of Driver's Neutral and Cognitive Distraction States Based on Peripheral Vehicle Behavior in Driver's Gaze Transition," *IEEE Transactions on Intelligent Vehicles*, Volume 1, Issue 2, pp.148-157, 2016.
13. Xueting Wang, Kensho Hara, Yu Enokibori, **Takatsugu Hirayama**, Kenji Mase, "Personal Viewpoint Navigation based on Object Trajectory Distribution for Multi-view Videos," *IEICE Transactions on Information and Systems*, Vol.E101-D, No.1, pp.193-204, 2018.
14. Yuki Imaeda, **Takatsugu Hirayama**, Yasutomo Kawanishi, Daisuke Deguchi, Ichiro Ide, Hiroshi Murase, "Pedestrian Detectability Estimation Considering Visual Adaptation to Drastic Illumination Change," *IEICE Transactions on Information and Systems*, Vol.E101-D, No.5, pp.1457-1462, 2018.
15. Marc A. Kastner, Ichiro Ide, Yasutomo Kawanishi, **Takatsugu Hirayama**, Daisuke Deguchi, Hiroshi Murase, "Estimating the visual variety of concepts by referring to Webpopularity," *Multimedia Tools and Applications*, 2018.

and 2 papers accepted and 16 domestic journal papers published.

Book

1. Chiyomi Miyajima, Masataka Mori, **Takatsugu Hirayama**, Norihide Kitaoka, Kazuya Takeda, "Integrated Modeling of Driver Gaze and Vehicle Operation Behavior During Lane Changes," Vehicle Systems and Driver Modeling DSP, - Human-to-Vehicle Interfaces, Driver Behavior, and Safety -, De Gruyter, pp.133-142, 2017.

Referred Conference Papers

1. Takehiko Abe, **Takatsugu Hirayama**, Haruhiko Kimura, Takashi Oyabu, "Research of the Support System to Identify Face Using Simulated Breeding," The 3rd Asia-Pacific Conference on Industrial Engineering and Management Systems, 2000.
2. **Takatsugu Hirayama**, Yoshio Iwai, Masahiko Yachida, "Person Identification System Robust for Facial Scale Variants," IEEE International Workshop on Cues in Communication (with CVPR2001), 2001.
3. **Takatsugu Hirayama**, Yoshio Iwai, Masahiko Yachida, "Face Recognition Based on Efficient Facial Scale Estimation," The 2nd International Workshop on Articulated Motion and Deformable Objects (LNCS 2492), pp. 201-212, 2002.
4. **Takatsugu Hirayama**, Yoshio Iwai, Masahiko Yachida, "Face Recognition System Using Accurate and Rapid Estimation of Facial Position and Scale," The 4th International Conference on Audio- and Video-Based Biometric Person Authentication (LNCS 2688), pp. 154-163, 2003.
5. **Takatsugu Hirayama**, Yoshio Iwai, Masahiko Yachida, "Integrated Estimation of Facial Scale and Position," IEEE International Conference on Multisensor Fusion and Integration for Intelligent Systems, pp. 222-227, 2003.
6. **Takatsugu Hirayama**, Yoshio Iwai and Masahiko Yachida, "Face Recognition System Using Efficient Methods for Facial Scale Variations," SICE Annual Conference 2003, pp. 1360-1365, 2003.
7. **Takatsugu Hirayama**, Yoshio Iwai, Masahiko Yachida, "Parallelization between Face Localization and Person Identification," The 6th IEEE International Conference on Automatic Face and Gesture Recognition, pp. 183-188, 2004.
8. **Takatsugu Hirayama**, King-Foong Lew, Yoshio Iwai and Masahiko Yachida, "Face Detection and Facial Personation Prevention by Using Infrared Images," SICE Annual Conference 2004.
9. **Takatsugu Hirayama**, Yoshio Iwai, Masahiko Yachida, "Face Authentication System with Facial Personation Prevention by Using Infrared Images," The 2nd International Symposium on Systems and Human Science "Complex Systems for Safety, Security and Reliability", 2005.
10. Yoshio Iwai, **Takatsugu Hirayama**, Masahiko Yachida, "Development of Biometric Authentication API Based on Face Recognition -BioAPI++," The 2nd International Symposium on Systems and Human Science "Complex Systems for Safety, Security and Reliability", 2005.

11. Yuuki Kosaka, **Takatsugu Hirayama**, Yoshio Iwai, Masahiko Yachida, "People Tracking and Action Recognition System Using Omnidirectional Images," SICE Annual Conference 2005, No. WP1-16-4, pp. 3584-3589, 2005.
12. Masahiro Nishiyama, Hiroaki Kawashima, **Takatsugu Hirayama**, Takashi Matsuyama, "Facial Expression Representation based on Timing Structures in Faces," IEEE International Workshop on Analysis and Modeling of Faces and Gestures (with ICCV2005, LNCS 3723), pp. 140-154, 2005.
13. Tetsuro Onishi, **Takatsugu Hirayama**, Takashi Matsuyama, "What does the Face-Turning Action Imply in Consensus Building Dialogue?," International Workshop on Machine Learning and Multimodal Interaction (LNCS 5237), pp. 26-37, 2008.
14. Akihiro Kobayashi, Junji Satake, **Takatsugu Hirayama**, Hiroaki Kawashima, Takashi Matsuyama, "Person-Independent Face Tracking Based on Dynamic AAM Selection," The 8th IEEE International Conference on Automatic Face and Gesture Recognition, 2008.
15. Jean-Baptiste Dodane, **Takatsugu Hirayama**, Hiroaki Kawashima, Takashi Matsuyama, "Estimation of User Interest Using Time Delay Features between Proactive Content Presentation and Eye Movements," The 3rd International Conference on Affective Computing and Intelligent Interaction, pp.201-208, 2009.
16. Ryo Yonetani, Hiroaki Kawashima, **Takatsugu Hirayama**, Takashi Matsuyama, "Gaze Probing: Event-Based Estimation of Objects Being Focused On," The 20th International Conference on Pattern Recognition, 2010.
17. **Takatsugu Hirayama**, Yasuyuki Sumi, Tatsuya Kawahara, Takashi Matsuyama, "Info-concierge: Proactive Multi-modal Interaction Based on Mind Probing," The Asia Pacific Signal and Information Processing Association Annual Summit and Conference (APSIPA ASC 2011).
18. **Takatsugu Hirayama**, Kenji Mase, Kazuya Takeda, "Detection of Driver Distraction based on Temporal Relationship between Eye-Gaze and Peripheral Vehicle Behavior," The 15th IEEE Intelligent Transportation Systems Conference (ITSC 2012), 2012.
19. Masataka Mori, Chiyomi Miyajima, Pongtep Angkititrakul, **Takatsugu Hirayama**, Yiyang Li, Norihide Kitaoka, Kazuya Takeda, "Measuring Driver Awareness based on Correlation between Gaze Behavior and Risks of Surrounding Vehicles," The 15th IEEE Intelligent Transportation Systems Conference (ITSC 2012), 2012.
20. Erina Ishikawa, Ryo Yonetani, Hiroaki Kawashima, **Takatsugu Hirayama**, Takashi Matsuyama, "Semantic Interpretation of Eye Movements Using Designed Structures of Displayed Contents," The 4th Workshop on Eye Gaze in Intelligent Human Machine Interaction: Eye Gaze and Multimodality (with ICMI2012), 2012.
21. Shohei Usui, Fujio Toriumi, Masato Matsuo, **Takatsugu Hirayama**, Yu Enokibori, Kenji Mase, "Proposal for a generalized Network Growth Model of Social Network Service," The 5th International Workshop on Emergent Intelligence on Networked Agents (WEIN'13 with AAMAS2013), 2013.

22. Masataka Mori, Chiyomi Miyajima, **Takatsugu Hirayama**, Norihide Kitaoka, Kazuya Takeda, "Analysis of Lane Change Maneuvers Based on Driver Gaze and Vehicle Operation Behavior," International Conference on Driver Distraction and Inattention (DDI 2013), 2013.
23. Shohei Usui, Fujio Toriumi, **Takatsugu Hirayama**, Kenji Mase, "Analysis of Influential Features for Information Diffusion," ASE/IEEE International Conference on Social Computing, 2013.
24. Masataka Mori, Chiyomi Miyajima, **Takatsugu Hirayama**, Norihide Kitaoka, Kazuya Takeda, "Comparison of Lane Change Behavior of Expert and Non-Expert Drivers," The 2nd International Symposium on Future Active Safety Technology toward Zero Traffic Accidents (FAST-zero'13), 2013.
25. Takashi Bando, Masumi Egawa, Hiroyuki Okuda, Hitoshi Terai, **Takatsugu Hirayama**, Chiyomi Miyajima, Daisuke Deguchi, Katsuhiko Kaji, Kazuya Takeda, Tatsuya Suzuki, "Repressing Overtrust: Driver Cooperated Driving Support Systems," The 2nd International Symposium on Future Active Safety Technology toward Zero Traffic Accidents (FAST-zero'13), 2013.
26. Masataka Mori, Chiyomi Miyajima, **Takatsugu Hirayama**, Norihide Kitaoka, Kazuya Takeda, "Integrated Modeling of Multiple Driving Behavior Signals to Estimate Risk Level of Lane Change Maneuvers," The 6th Biennial Workshop on Digital Signal Processing for In-Vehicle Systems, 2013.
27. Kentaro Hitomi, Takashi Bando, Masumi Egawa, Hiroyuki Okuda, Hitoshi Terai, **Takatsugu Hirayama**, Chiyomi Miyajima, Daisuke Deguchi, Katsuhiko Kaji, Kazuya Takeda, Tatsuya Suzuki, "Toward Well-Balanced Man-Machine Cooperation in Vehicle," The 6th Biennial Workshop on Digital Signal Processing for In-Vehicle Systems, 2013.
28. Masataka Mori, Chiyomi Miyajima, **Takatsugu Hirayama**, Norihide Kitaoka, Kazuya Takeda, "Integrated Modeling of Driver Gaze and Vehicle Operation Behavior to Estimate Risk Level During Lane Changes," The 16th IEEE Intelligent Transportation Systems Conference (ITSC 2013), 2013.
29. Yusuke Tanaka, Takashi Bando, Masumi Egawa, Hiroyuki Okuda, Hitoshi Terai, **Takatsugu Hirayama**, Chiyomi Miyajima, Daisuke Deguchi, Katsuhiko Kaji, Kazuya Takeda, Tatsuya Suzuki, "Toward the Development of a Driver Support System for Repressing Overtrust and Overreliance," The 20th ITS World Congress 2013, 2013.
30. Atsushi Iwatsuki, **Takatsugu Hirayama**, Kenji Mase, "Analysis of Soccer Coach's Eye Gaze Behavior," International Joint Workshop on Advanced Sensing/Visual Attention and Interaction, 2013.
31. Kensho Hara, **Takatsugu Hirayama**, Kenji Mase, "Simultaneous Action Recognition and Localization Based on Multi-View Hough Voting," The 2nd Asian Conference on Pattern Recognition, 2013.
32. Fumiharu Tomiyasu, **Takatsugu Hirayama**, Kenji Mase, "Wide-Range Feature Point Tracking with Corresponding Point Search and Accurate Feature Point Tracking with

- Mean-Shift," Workshop on Recent Advances in Computer Vision and Pattern Recognition, 2013.
33. **Takatsugu Hirayama**, Takafumi Marutani, Daishi Tanoue, Shogo Tokai, Sidney Fels, Kenji Mase, "Agent-Assisted Multi-Viewpoint Video Viewer and Its Gaze-Based Evaluation," The 6th Workshop on Eye Gaze in Intelligent Human Machine Interaction, 2013.
 34. Masataka Mori, Chiyomi Miyajima, **Takatsugu Hirayama**, Norihide Kitaoka, Kazuya Takeda, "Use of Driver Gaze Information for Detecting Risky Lane Changes," RISP International Workshop on Nonlinear Circuits, Communications and Signal Processing, 2014.
 35. Toshiya Ohira, **Takatsugu Hirayama**, Kenji Mase, "Top-down Visual Attention Computational Model Using Visual Feature Distribution of Search Target," International Workshop on Attention Models in Robotics: Visual Systems for Better HRI (with HRI 2014).
 36. Michimasa Inaba, Naoyuki Iwata, Fujio Toriumi, **Takatsugu Hirayama**, Yu Enokibori, Kenichi Takahashi, Kenji Mase, "Constructing a Non-task-oriented Dialogue Agent using Statistical Response Method and Gamification," The 6th International Conference on Agents and Artificial Intelligence, 2014.
 37. Yuki Muramatsu, **Takatsugu Hirayama**, Kenji Mase, "Video Generation Method Based on User's Tendency of Viewpoint Selection for Multi-view Video Contents," The 5th Augmented Human International Conference (Augmented Human'14), 2014.
 38. **Takatsugu Hirayama**, Takafumi Marutani, Sidney Fels, Kenji Mase, "Analysis of Gaze Behavior while using a Multi-Viewpoint Video Viewer," ACM Symposium on Eye Tracking Research and Applications, 2014.
 39. Shohei Usui, Fujio Toriumi, **Takatsugu Hirayama**, Kenji Mase, "Analysis of Information Diffusion on Directed Networks," The 6th International Workshop on Emergent Intelligence on Networked Agents (WEIN'14 with AAMAS 2014), 2014.
 40. Fang Chaowei, **Takatsugu Hirayama**, Kenji Mase, "Free-viewpoint Video Synthesis of Soccer Match using Video Texture Catalog from Multiple Camera Sources," 3D Systems and Applications (3DSA), 2014.
 41. Shohei Usui, Fujio Toriumi, **Takatsugu Hirayama**, Kenji Mase, "Analysis of Information Diffusion Focusing on Directed Network," International School and Conference on Network Science (NetSci2014), 2014.
 42. **Takatsugu Hirayama**, Shota Sato, Kenji Mase, Chiyomi Miyajima, Kazuya Takeda, "Analysis of Peripheral Vehicular Behavior in Driver's Gaze Transition: Differences between Driver's Neutral and Cognitive Distraction States," The 17th IEEE Intelligent Transportation Systems Conference (ITSC 2014), 2014.
 43. Kensho Hara, **Takatsugu Hirayama**, Kenji Mase, "Trend-sensitive Hough Forests for Action Detection," IEEE International Conference on Image Processing (ICIP 2014), 2014.

44. Xueting Wang, Yuki Muramatsu, **Takatsugu Hirayama**, Kenji Mase, "Context-dependent Viewpoint Sequence Recommendation System for Multi-view Video," IEEE International Symposium on Multimedia (ISM 2014), 2014.
45. Chiyomi Miyajima, Suguru Yamazaki, Takashi Bando, Kentaro Hitomi, Hitoshi Terai, Hiroyuki Okuda, **Takatsugu Hirayama**, Masumi Egawa, Tatsuya Suzuki, Kazuya Suzuki, "Analyzing Driver Gaze Behavior and Consistency of Decision Making During Automated Driving," IEEE Intelligent Vehicles Symposium (IV 2015), 2015.
46. Satoshi Yokoi, Keisuke Doman, **Takatsugu Hirayama**, Ichiro Ide, Daisuke Deguchi, Hiroshi Murase, "Typicality Analysis of the Combination of Ingredients in a Cooking Recipe for Assisting the Arrangement of Ingredients," The 7th Workshop on Multimedia for Cooking and Eating Activities (CEA 2015 with ICME 2015), 2015.
47. Hitoshi Terai, Hiroyuki Okuda, Kentaro Hitomi, Takashi Bando, Chiyomi Miyajima, **Takatsugu Hirayama**, Yuki Shinohara, Masumi Egawa, Kazuya Takeda, "An Experimental Study on the Difference in Drivers' Decision-making Behavior during Manual and Supported Driving," The 6th International Conference on Applied Human Factors and Ergonomics (AHFE 2015), 2015.
48. Hiroki Matsunaga, Keisuke Doman, **Takatsugu Hirayama**, Ichiro Ide, Daisuke Deguchi, Hiroshi Murase, "Tastes and Textures Estimation of Foods Based on the Analysis of its Ingredients List and Image," The 1st International Workshop on Multimedia Assisted Dietary Management (MADiMa 2015, LNCS 9281), pp.326-333, 2015.
49. Junko Seko, Junya Morita, **Takatsugu Hirayama**, Kenji Mase, Kazunori Yamada, "Investigating Memory Recall by Visualization of Photo Network," The 2nd Ubicomp Workshop on Ubiquitous Technologies To Augment The Human Mind, 2015.
50. Kentarou Hitomi, Hitoshi Terai, Hiroyuki Okuda, Takashi Bando, Chiyomi Miyajima, **Takatsugu Hirayama**, Yuki Shinohara, Masumi Egawa, Kazuya Takeda, "Effect of Automatic Lane Changing on Driver's Behaviour Decision Process," The 3rd International Symposium on Future Active Safety Technology toward Zero Traffic Accidents (FAST-zero'15), pp.551-557, 2015.
51. Takuya Inoue, Tomokazu Takahashi, **Takatsugu Hirayama**, Yasutomo Kawanishi, Daisuke Deguchi, Ichiro Ide, Hiroshi Murase, Takayuki Kurozumi, Kunio Kashino, "Image Transformation of Eye Areas for Synthesizing Eye-contacts in Video Conferencing," The 11th International Conference on Computer Vision Theory and Applications (VISAPP 2016), 2016.
52. Hiroya Inoue, **Takatsugu Hirayama**, Keisuke Doman, Yasutomo Kawanishi, Ichiro Ide, Daisuke Deguchi, Hiroshi Murase, "A Classification Method of Cooking Operations Based on Eye Movement Patterns," ACM Symposium on Eye Tracking Research and Applications (ETRA 2016), 2016.
53. Atsushi Iwatsuki, **Takatsugu Hirayama**, Junya Morita, Kenji Mase, "Skilled Gaze Behavior Extraction based on Dependency Analysis of Gaze Patterns on Video Scenes," ACM Symposium on Eye Tracking Research and Applications (ETRA 2016), 2016.

54. Kazuma Takahashi, Keisuke Doman, Yasutomo Kawanishi, **Takatsugu Hirayama**, Ichiro Ide, Daisuke Deguchi, Hiroshi Murase, "A Study on Estimating the Attractiveness of Food Photography," The 1st International Workshop on Attractiveness Computing in Multimedia (ACM 2016 with BigMM 2016), 2016.
55. Junya Morita, **Takatsugu Hirayama**, Kenji Mase, Kazunori Yamada, "Modeling Autobiographical Memory from Photo Libraries," The 14th International Conference on Cognitive Modeling (ICCM 2016), 2016.
56. Junya Morita, **Takatsugu Hirayama**, Kenji Mase, Kazunori Yamada, "Model-based Reminiscence: Guiding Mental Time Travel by Cognitive Modeling," The 4th International Conference on Human-Agent Interaction, 2016.
57. Shintarou Hayamizu, Junya Morita, **Takatsugu Hirayama**, Kenji Mase, Kazunori Yamada, "EEG Features Representing Cognitive and Emotional States Evoked by Personal Pictures," The 3rd International Conference on Universal Village (UV 2016), 2016.
58. Xueting Wang, Kensho Hara, Yu Enokibori, **Takatsugu Hirayama**, Kenji Mase, "Personal Multi-view Viewpoint Recommendation based on Trajectory Distribution of the Viewing Target," ACM Multimedia 2016.
59. Wataru Hashiguchi, Junya Morita, **Takatsugu Hirayama**, Kenji Mase, Kazunori Yamada, Mayu Yokoya, "Multimodal Biofeedback System Integrating Low-Cost Easy Sensing Devices," The 18th International Conference on Multimodal Interaction (ICMI 2016), 2016.
60. Yuki Imaeda, **Takatsugu Hirayama**, Yasutomo Kawanishi, Daisuke Deguchi, Ichiro Ide, Hiroshi Murase, "Can a Driver Assistance System Determine if a Driver is Perceiving a Pedestrian?: Consideration of the Driver's Visual Adaptation to Illumination Change," The 12th International Conference on Computer Vision Theory and Applications (VISAPP 2017).
61. Kazuma Takahashi, Keisuke Doman, Yasutomo Kawanishi, **Takatsugu Hirayama**, Ichiro Ide, Daisuke Deguchi, Hiroshi Murase, "Estimation of the Attractiveness of Food Photography Focusing on Main Ingredients," The 9th Workshop on Multimedia for Cooking and Eating Activities (CEA 2017 with IJCAI 2017), 2017.
62. Hiroki Takimoto, Magali Philippe, Yasutomo Kawanishi, Ichiro Ide, **Takatsugu Hirayama**, Keisuke Doman, Daisuke Deguchi, Hiroshi Murase, "Detection of Similar Geo-Regions based on Visual Concepts in Social Photos," Pacific-Rim Conference on Multimedia (PCM 2017).
63. Wataru Hashiguchi, Junya Morita, **Takatsugu Hirayama**, Kenji Mase, "Proposal and Evaluation of An Adaptive Agent for Stress Control Training using Multimodal Biological Signals," HAI2017 Workshop on Representation Learning for Human and Robot Cognition, 2017.
64. Hirotaka Kato, **Takatsugu Hirayama**, Yasutomo Kawanishi, Keisuke Doman, Ichiro Ide, Daisuke Deguchi, Hiroshi Murase, "Toward Describing Human Gaits by Onomatopoeias," The 7th IEEE Workshop on Analysis and Modeling of Faces and Gestures (AMFG 2017 with ICCV 2017), 2017.

65. Xueting Wang, Yu Enokibori, **Takatsugu Hirayama**, Kensho Hara, Kenji Mase, "User Group based Viewpoint Recommendation using User Attributes for Multiview Videos," Workshop on Multimodal Understanding of Social, Affective and Subjective Attributes (MUSA 2017 with ACM MM 2017), 2017.
66. Yuki Umezawa, **Takatsugu Hirayama**, Yu Enokibori, Kenji Mase, "Egocentric Video Multi-viewer for Analyzing Skilled Behaviors based on Gaze Object," The 23rd International Conference on Intelligent User Interfaces Companion, Article No.33, 2018.

and 5 papers accepted.

Conference Presentations

1. Takashi Matsuyama, Hiroaki Kawashima, **Takatsugu Hirayama**, "Taxonomy of Human Communication," International Workshop on Interaction Dynamics, Embodiment, and Implicit Primordial Model, 2000.
2. Erina Ishikawa, Ryo Yonetani, **Takatsugu Hirayama**, Takashi Matsuyama, "Analysis of Gaze Mirroring Effects," International Joint Workshop on Advanced Sensing/Visual Attention and Interaction, 2013.
3. **Takatsugu Hirayama**, Kenji Mase, Kazuya Takeda, "Timing Analysis of Driver Gaze under Cognitive Distraction toward Peripheral Vehicle Behavior," International Joint Workshop on Advanced Sensing/Visual Attention and Interaction, 2013.
4. Masataka Mori, Chiyomi Miyajima, **Takatsugu Hirayama**, Norihide Kitaoka, Kazuya Takeda, "Modeling Driver Gaze and Vehicle Operation Behavior during Lane Changes," International Joint Workshop on Advanced Sensing/Visual Attention and Interaction, 2013.
5. **Takatsugu Hirayama**, "Driver Gaze Behavior Analysis Focused on Relationships with Driving Contexts," The 10th Asia-Pacific Conference on Vision (Proceedings of i-Perception), 2014.
6. Junya Morita, **Takatsugu Hirayama**, Kenji Mase, Kazunori Yamada, "Cognitive Modeling of Life Story: Reconstructing Our Memories from a Photo Library," The 37th Annual Cognitive Science Society Meeting (COGSCI 2015), 2015.
7. Junya Morita, **Takatsugu Hirayama**, Kenji Mase, Kazunori Yamada, "Mirroring Autobiographical Memory by Cognitive Architecture," International Conference on Biologically Inspired Cognitive Architectures (BICA 2015), 2015.
8. Naoki Akai, Luis Yoichi Morales, Kyle Sama, Hailong Liu, **Takatsugu Hirayama**, and Hiroshi Murase, "Towards Social Autonomous Navigation Utilizing ML Techniques," Workshop on New horizons in Cognitive Robotics and AI: Exploiting Recent Advances for Predictive Control and Prospective Interaction between Agents (with ICRA 2018), 2018.

Patents

1. Gaze target determination device and gaze target determination method, US/2011/0141010 A1, US 13/057,857, 2011.

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2. Degree of interest estimating device and degree of interest estimating method, US/2013/0091515 A1, US 13/701,540, 2013.