

# CHUNG-YEON LEE

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## RESEARCH INTERESTS

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**Generative AI:** LLM, VLM, VLA, Stable diffusion, World models




**Robotics/Vision:** Mobile manipulation, Visual SLAM, Multimodal perception, Neural rendering

**Cognitive Neuroscience:** Memory encoding and retrieval, Visuo-spatial perception

**Other Topics:** Augmented/virtual reality, Life-logging data analysis, Anomaly detection

## EDUCATION

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- 2013 – 2023      Ph.D. in Computer Science and Engineering, Seoul National University, Korea
- Thesis: *Spatial Perception of Complex Scenes using Neural Representation Learning* 
  - Marks: 3.80 GPA (on a 4.3 GPA scale)
- 2011 – 2013      M.S. in Interdisciplinary Program in Neuroscience, Seoul National University, Korea
- Thesis: *EEG Correlates of Multimodal Episodic Memory Formation* 
  - Marks: 3.49 GPA (on a 4.3 GPA scale)
- 2003 – 2010      B.S. in Multimedia Engineering, Sungkyul University, Korea
- Thesis: *Automatic Tagging Scheme based on Face Recognition* 
  - Marks: 4.38 GPA (on a 4.5 GPA scale), *Valedictorian*

## RESEARCH EXPERIENCE

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- 2011 – 2022      Research Assistant, [Biointelligence Laboratory](#), Seoul National University, Seoul, Korea
- Advisor: Professor Byoung-Tak Zhang
  - Focused Topics: Machine learning, AI robots, Cognitive neuroscience
- 2018              Visiting Researcher, [Institute for Artificial Intelligence](#), Universität Bremen, Germany
- Advisor: Professor Michael Beetz
  - Focused Topics: Visual imitation learning for service robots
- 2011              Visiting Researcher, [Artificial Intelligence Group](#), Universität Bielefeld, Germany
- Advisor: Professor Ipke Wachsmuth
  - Focused Topics: Learning to read user intentions from multimodal data of VR environment
- 2011              Visiting Researcher, [Intelligent Autonomous Systems Group](#), TUM, Germany
- Advisor: Professor Michael Beetz
  - Focused Topics: Learning and generation of 3D human motions using cRBM
- 2008 – 2011      Research Assistant, [XICOM Laboratory](#), Sungkyul University, Anyang, Korea
- Advisor: Professor Seongah Chin
  - Focused Topics: Facial expression synthesis/recognition, Brain-computer interface

## AWARDS AND HONORS

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- 2021 The Minister Prize for the Winner of AI Championship, Ministry of SMEs and Startups, Korea
- 2021 The Minister Prize for the Winner of AI Competition, Ministry of Science and ICT, Korea
- 2018 100 Excellent Research Projects of 2018, Ministry of Science and ICT, Korea
- 2010 Chief Director Award, Sungkyul University
- 2009 Effort Award, International Student Design Festival, Asia-Pacific Engineering Education Congress

### [Competition Ranked]

- 09/21 [[1<sup>st</sup> Place](#)] World Robot Challenge 2020, Service Robotics (PRC), Virtual
- 06/21 [[1<sup>st</sup> Place](#)] RoboCup 2021, RoboCup@Home Domestic Standard Platform League, Virtual
- 10/21 [[1<sup>st</sup> Place](#)] AI Championship 2021, Anomaly Detection Task, Ministry of SMEs and Startups, Korea
- 06/21 [[2<sup>nd</sup> Place](#)] AI Competition 2021, Numerical Analysis Task, Ministry of Science and ICT, Korea
- 07/19 [[2<sup>nd</sup> Place](#)] RoboCup 2019, RoboCup@Home Domestic Standard Platform League, Sydney, Australia
- 10/18 [[4<sup>th</sup> Place](#)] World Robot Summit 2018, Partner Robot Challenge–Real Space, Tokyo, Japan
- 06/18 [[4<sup>th</sup> Place](#)] RoboCup 2018, RoboCup@Home Social Standard Platform League, Montreal, Canada
- 07/17 [[1<sup>st</sup> Place](#)] RoboCup 2017, RoboCup@Home Social Standard Platform League, Nagoya, Japan

### [Scholarships]

- 2014 *Yoon Songye & Kim Taek-Jin Scholarship*, Seoul National University
- 2009 *Outstanding Student Scholarship*, Industry-Academy Cooperation Group, Sungkyul University
- 2008 *IT Masters Scholarship*, KT Corporation
- 2008 – 2009 *Digital Venture Pilot Project Fund*, Sungkyul University
- 2003 – 2009 *Academic Merit Scholarships* (6 semesters), Sungkyul University

### [Conference Awards]

- 2018 *Best Technical Demo Award*, AAAI Conference on Artificial Intelligence (AAAI-18)
- 2018 *Excellent Student Paper Award*, Korea Software Congress (KSC-2018)
- 2016 *Best Paper Award*, 2016 Int’l Symposium on Perception, Action, and Cognitive Systems (PACS-2016)
- 2015 – 2016 *Best Paper Award* (2 times), Conferences of KIISE and Korea Computer Congress
- 2010 – 2016 *Excellent Presentation Award* (8 times), Conferences of KIISE, IEEK, and KCC

## ACADEMIC SERVICES

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### [Program Committee & Reviewer]

- 2025 *IEEE Robotics and Automation Letters (RA-L)*
- 2025 *Korea Computer Congress (KCC)*
- 2024 *IEEE Transactions on Systems, Man, and Cybernetics: Systems (SMCA)*
- 2022 *IEEE International Conference on Robotics and Automation (ICRA)*
- 2022 *AAAI Conference on Artificial Intelligence (AAAI)*
- 2021 *Frontiers in Robotics and AI*

### [Invited Talks]

- 09/24 “AI Technology for General-Purpose Robot Intelligence”, Robot+AI Seminar, Advantech
- 05/24 “Utilization of Generative AI on Media Software”, Division of Media Software, Sungkyul University
- 05/23 “Development and Utilization of LLMs”, Division of Media Software, Sungkyul University
- 07/21 “Intelligent Agents in Real Life”, ETRI

06/21 “Intelligent Agents in Real Life”, Korea Internet Conference (KRnet-2021)  
 12/19 “Empowering cognitive AI robots with deep learning”, HTW-Berlin  
 06/19 “How to develop a service robot”, Dept. of Biomedical Engineering, Gachon University  
 04/18 “AI & social robotics”, Division of Media Software, Sungkyul University  
 01/18 “Cognitive agents that learn everyday life”, Institute for Artificial Intelligence, Uni. Bremen  
 10/14 “AI and machine learning”, Dept. of Multimedia Engineering, Sungkyul University  
 10/14 “Theory and applications of cognitive signal processing”, The 1st Tutorials on Cognitive Technology, National Association of Cognitive Science Industries (NACSI)  
 08/14 “Deep learning”, Dept. of Multimedia Engineering, Sungkyul University  
 10/11 “Research trends in multimedia engineering”, Dept. of Multimedia Engineering, Sungkyul University

### [Teaching & Mentoring]

2025 Mentor / ICT Hanium DreamUp Program,  
Institute for Information & Communications Technology Promotion (IITP)  
 2022 Lecturer / AI Model Development (Visual Perception Part)  
Euclid Soft  
 2021 Lecturer / Data Analysis & AI Program [\[link\]](#),  
YBM Career Campus  
 2017 Lecturer / Introduction and Practices on Machine Learning,  
Doosan Corporation  
 2017 Lecturer / Tutorials on Machine Learning and Deep Learning,  
School of Computer Science and Engineering, Sungshin University  
 2016 Lecturer / Deep Learning Tutorial (using Caffe) for the 15th Tutorials on Cognitive Technology [\[link\]](#),  
National Association of Cognitive Science Industries (NACSI)  
 2014 Mentor / Academic Counselling Program (Engineering College Part),  
College of Liberal Studies, Seoul National University  
 2014 Mentor / Discrete Mathematics,  
Department of Computer Science and Engineering, Seoul National University  
 2012 TA / Computational Modeling of Intelligence,  
Interdisciplinary Program in Cognitive Science, Seoul National University  
 2011 TA / Brain, Computation, and Neural Learning  
Brain-Cognition-Behavior (BCB) Course, Seoul National University  
 2011 TA / Computational Modeling of Intelligence,  
Interdisciplinary Program in Cognitive Science, Seoul National University

### **R&D PROJECT PARTICIPATIONS (~2021\*)**

*\* Since 2021, involved in various industrial R&D projects at Surromind Inc.*

08/21–11/21 Sound/Vibration-Based AI Fault Diagnosis System  
National IT Industry Promotion Agency (NIPA), Korea  
*\*Served as the principal investigator*  
*\*Selected as the Excellent ICT Research Project of 2021, Korea Communications Agency*  
 04/18–03/22 Development of Human-care Robot Technology for Aging Society  
Institute for Information & Communications Technology Promotion (IITP), Korea  
*\*Partly developed a mapping and navigation module and a robot interface for AI services*

03/15–07/21	<u>Cognitive Agents That Learn Everyday Life (SW Star Lab Project)</u> Institute for Information & Communications Technology Promotion (IITP), Korea <i>*Served as the project manager and the open-source manager</i> <i>*Selected as Top-100 Excellent Research Projects of 2018, Ministry of Science and ICT</i>
09/16–03/21	<u>Autonomous Learning in Mobile Cognitive Machines</u> Air Force Office of Scientific Research (AFOSR), USA
04/17–03/19	<u>Service Technology Development for Noninvasive Diagnosis and Management of Sleep and Sleep Environment</u> Ministry of Trade, Industry and Energy, Korea
02/18–01/19	<u>Self-Programming Cognitive Robots based on Learning from Human Behavior Data</u> National Research Foundation (NRF), Korea
02/18–09/18	<u>Humanoid Robot PoC (SLAM &amp; Navigation Part)</u> EMART Inc., Korea
12/14–11/15	<u>One-Shot/Incremental Learning-based Object Recognition Algorithm,</u> NAVER Corp., Korea
06/12–09/15	<u>Context and Scene Understanding using Multimodal Sensor Information</u> Samsung Electronics, Korea, <i>*Served as the project manager</i>
04/15–07/15	<u>Wrong Pose Detection Algorithm for Violin Performance Pose Correction</u> Samsung Electronics, Korea
04/12–03/15	<u>Videome: Cognitive Machine Learning from Digital Videos</u> National Research Foundation (NRF), Korea
10/14–12/14	<u>EEG Feature Processing for Early Detection of Stroke</u> Samsung Electronics, Korea, <i>*Served as the project manager</i>
05/11–04/13	<u>Brain Net: Uncovering the Hyperedges of Cortical Brain Graphs</u> National Research Foundation (NRF), Korea, <i>*Served as the project manager</i>
05/11–05/13	<u>Machine Learning for Generating Flexible Motions of Robot Arms</u> National Research Foundation (NRF), Korea
05/10–04/11	<u>Super-Realistic Face Modeling using Parameterization of Wound and Scar</u> National Research Foundation (NRF), Korea
01/11–03/11	<u>Genome-wide Analysis based on Multiple SNP Loci</u> Centers for Disease Control & Prevention (CDC), Korea
04/09–05/10	<u>Live Expression Cloning System with Emotion Extraction from Bio Information for Sensible Entertainment Contents</u> National Research Foundation (NRF), Korea
07/08–08/09	<u>Deriving Exaggerated Facial Expressions from Motion Data based on Facial features and Personal Styles,</u> National Research Foundation (NRF), Korea
12/08–04/09	<u>Customized 3D Face and Expression for PDA devices,</u> Technology Translation Program Small & Medium Business Administration (SMBA), Korea

## **INTELLECTUAL PROPERTIES**







2025	Learning and evaluation methods for language model specialized in retrieval-augmented generation and system thereof, KIPO (Pending/10-2025-0035173)
2022	Anomaly detection method based on multi-modal sensor, and computing apparatus for performing the same, KIPO (10-2413958; PCT/KR2021/004701)

- 2021 Method for diagnosing machine failure using sound and vibration based on deep learning and diagnostic device using them, KIPO (Pending/10-2021-0167790; PCT/KR2022/016624)
- 2019 Method and apparatus of visual feature augmentation for visual SLAM using object labels, KIPO (10-2285427; PCT/KR2019/016641)
- 2015 Contents recommending system and contents recommending method based on EEG/ECG using wireless communication, KIPO (10-1576892)
- 2015 Android Sensor Data Logging Application, Korea Copyright Commission (C-2016-001315)
- 2015 Automatic Background Lifelog Recording Application for Google Glass, Korea Copyright Commission (C-2016-001434)
- 2012 Neural network-based motion generating program, Korea Copyright Commission (C-2012-002484)
- 2012 Place recognizing device and method for providing context awareness service, KIPO (10-1995799)


## JOURNAL PUBLICATIONS






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### [International]

- Taewoong Kang, Dongwoon Song, Jae-Bong Yi, Joonyoung Kim, **Chung-Yeon Lee**, Youngjae Yoo, Minji Kim, Hyun-Jun Jo, Byoung-Tak Zhang, Jaebok Song & Seung-Joon Yi, "Team Tidyboy at the WRS 2020: a modular software framework for home service robots," *Advanced Robotics*, (SCIE, IF: 1.699), 2022. 
- Sang-Woo Lee, **Chung-Yeon Lee**, Dong-Hyun Kwak, Jung-Woo Ha, Jeonghee Kim, Byoung-Tak Zhang, "Dual-memory neural networks for modeling cognitive activities of humans via wearable sensors," *Neural Networks*, (SCI, IF: 3.216), Vol. 92, pp. 17–28, 2017. 
- Seongah Chin, **Chung-Yeon Lee**, Jaedong Lee, "An automatic method for motion capture-based exaggeration of facial expressions with personality types," *Virtual Reality*, (SCIE, IF: 0.341), Vol. 17, No. 3, pp. 219–237, 2013. 
- Seongah Chin and **Chung-Yeon Lee**, "Personality trait and facial expression filter-based brain-computer interface," *International Journal of Advanced Robotic Systems* (SCIE, IF: 0.375), Vol. 10, 138:2013. 
- **Chung-Yeon Lee**, Sangyong Lee, and Seongah Chin, "Multi-layer structural wound synthesis on 3D face," *Computer Animation and Virtual Worlds (JCAVW)* (SCI, IF: 0.530), Vol. 22, No. 2, pp. 177–185, April 2011. 
- Seongah Chin and **Chung-Yeon Lee**, "Exaggeration of facial expressions from facial motion capture data," *Chinese Optics Letters* (SCIE, IF: 0.967), Vol. 8, No. 1, pp. 29–32, January 2010. 
- **Chung-Yeon Lee** and Seongah Chin, "Facial expression mirroring-based classification of emotions using electroencephalogram signals," *International Journal of Multimedia and Ubiquitous Engineering*, Vol. 8, No. 2, pp.101–110, 2013. 

### [Domestic]









- **Chung-Yeon Lee**, Dong Hyun Kwak, Beom-Jin Lee, and Byoung-Tak Zhang, "Event cognition-based daily activity prediction using wearable sensors," *Journal of KIISE*, 43(7), pp. 781–785, July 2016. 

- **Chung-Yeon Lee**, Beom-Jin Lee, Kyoung-Woon On, Jung-Woo Ha, Hong-Il Kim and Byoung-Tak Zhang, "Place recognition using ensemble learning of mobile multimodal sensory information," *Journal of KIISE: Computing Practices*, 21(1), pp. 64–69, January 2015. 
- **Chung-Yeon Lee** and Byoung-Tak Zhang, "Analysis on effective EEG connectivity of memory retrieval in the brain," *Journal of KIISE: Computing Practices and Letters*, 20(4), pp. 257–261, April 2014. 
- **Chung-Yeon Lee** and Byoung-Tak Zhang, "Brain-behavior analysis of multimodal episodic memory formation," *Journal of KIISE: Computing Practices and Letters*, 19(12), pp. 703–707, December 2013. 
- **Chung-Yeon Lee**, Beom-Jin Lee, Jung-Woo Ha, and Byoung-Tak Zhang, "Place recognition by learning mobile vision and location data," *Journal of KIISE: Computing Practices and Letters*, 19(5), pp. 288–292, May 2013. 
- **Chung-Yeon Lee**, Jaedong Lee, and Seongah Chin, "Automatic tagging scheme for plural faces," *Journal of The Institute of Electronics Engineers of Korea*, 37-CI(5), pp. 11–21, May 2010. 












## CONFERENCE PROCEEDINGS

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### [International]

- **Chung-Yeon Lee**, Youngjae Yoo, and Byoung-Tak Zhang, "PlaceNet: Neural Spatial Representation Learning with Multimodal Attention," *Proceedings of the 31th International Joint Conference on Artificial Intelligence (IJCAI-2022, July 2022)*, pp. 1031-1038, 2022. 
- DongWoon Song, Taewoong Kang, Jaebong Yi, Joonyoung Kim, Taeyang Kim, **Chung-Yeon Lee**, Je-Hwan Ryu, Minji Kim, HyunJun Jo, Byoung-Tak Zhang, Jae-bok Song, and Seung-Joon Yi, "RoboCup@Home 2021 Domestic Standard Platform League Winner," In *RoboCup 2021: Robot World Cup XXIV* (LNCS/LNAI, vol. 13132), Springer, Cham, pp. 291-301, 2022. 
- Youngjae Yoo, **Chung-Yeon Lee** (co-1<sup>st</sup> author), and Byoung-Tak Zhang, "Multimodal Anomaly Detection based on Deep Auto-Encoder for Object Slip Perception of Mobile Manipulation Robots," *Proceedings of International Conference on Robotics and Automation (ICRA-2021, June 2021)* 
- **Chung-Yeon Lee**, Hyundo Lee, Injune Hwang, and Byoung-Tak Zhang, "Visual perception framework for an intelligent mobile robot," *Proceedings of 17<sup>th</sup> International Conference on Ubiquitous Robots and Ambient Intelligence (UR-2020, Kyoto, Japan, June 2020)* 
- Beom-Jin Lee, Jin-Young Choi, **Chung-Yeon Lee**, Kyoung-Wha Park, Sung-Jun Choi, Cheolho Han, Dongsig Han, Christina Baek, Patrick Emaase, and Byoung-Tak Zhang, "Perception-Action-Learning System for Mobile Social-Service Robots using Deep Learning," *Proceedings of the 32<sup>nd</sup> AAAI Conference on Artificial Intelligence (AAAI-18, New Orleans, February 2018, Best Technical Demo Awarded)* 
- Sang-Woo Lee, **Chung-Yeon Lee**, Dong Hyun Kwak, Jiwon Kim, Jeonghee Kim, and Byoung-Tak Zhang, "Dual-memory deep learning architectures for lifelong learning of everyday human behaviors," *Proceedings of the 25th International Joint Conference on Artificial Intelligence*, pp. 1669–1675, (IJCAI-16, New York, July 2016) 
- **Chung-Yeon Lee** and Byoung-Tak Zhang, "Effective EEG Connectivity Analysis of Episodic Memory Retrieval," In P. Bello, M. Guarini, M. McShane, & B. Scassellati (Eds.): *Proceedings of the 36th Annual Conference of the Cognitive Science Society, Austin, TX: Cognitive Science Society*, pp. 833–838. (CogSci 2014, Quebec City, July 23–26, 2014)  



- **Chung-Yeon Lee**, Beom-Jin Lee, Joon Shik Kim, and Byoung-Tak Zhang, "Neural correlates of episodic memory formation in audio-visual pairing tasks," *In N. Miyake, D. Peebles, & R. P. Cooper (Eds.): Proceedings of the 34th Annual Conference of the Cognitive Science Society, Austin, TX: Cognitive Science Society*, pp. 1864–1869. (CogSci 2012, Sapporo, August 1~4, 2012)  
- **Chung-Yeon Lee**, Sangyong Lee, and Seongah Chin, "Multi-layer structural wound synthesis on 3D face," *Proc. The 24th International Conference on Computer Animation and Social Agents (CASA 2011)*, Chengdu, China, May 26~28, 2011.  
- **Chung-Yeon Lee** and Seongah Chin, "Interactive wound synthesis on 3D face using inverse projection mapping," *Proc. The International Congress on Computer Applications and Computational Science (CACSS 2010)*, Singapore, December 4~6, 2010. 
- Seongah Chin, **Chung-Yeon Lee**, Jaedong Lee, "Facial expression image mapping for brain computer interface using EI type classification," *Proc. The International Conference on Information Sciences and Interaction Sciences (ICIS 2010)*, Chengdu, China, June 23~25, 2010.  
- Seongah Chin, **Chung-Yeon Lee**, Jaedong Lee, "Personal style and Non-negative matrix factorization based exaggerative expressions of face," *Hamid R. Arabnia, Leonidas Deligiannidis (Eds.): Proceedings of the 2009 International Conference on Computer Graphics & Virtual Reality*, CSREA Press, pp. 91–96. (CGVR 2009, Las Vegas, July 13~16, 2009)  
- Seongah Chin and **Chung-Yeon Lee**, "Leadership and self-propelled behavior based autonomous virtual fish motion," *Proc. International Conference on Convergence and hybrid Information Technology (ICCIT 2008)*, pp. 336–339, Pusan, Korea, November 11~13, 2008.  

#### [Domestic]

- Daebum Yuk, Seul Kim, Byoung-Hee Kim, and **Chung-Yeon Lee**, "LLM Training and Dataset Generation for Robust Retrieval-Augmented Generation," *Korea Computer Congress 2025 (KCC 2025)*
- Soyeon Chung, Daebum Yuk, Byoung-Hee Kim, and **Chung-Yeon Lee**, "An Integrated System for Fine-Tuning and Evaluation of Korean LLMs," *Korea Computer Congress 2025 (KCC 2025)*
- Youngjae Yoo, **Chung-Yeon Lee**, and Byoung-Tak Zhang, "Autoencoder-based Multimodal Anomaly Detection for Mobile Manipulation Robots," *Korea Computer Congress 2020 (KCC 2020)*, pp. 482-484, Busan, Korea, July 2020.
- Injune Hwang, **Chung-Yeon Lee**, Hyundo Lee, Byoung-Tak Zhang, "Human recognition and tracking for musing visual feature-based person re-identification model," *Korea Software Congress 2018 (KSC 2018)*, pp. 1958-1960, Pyeongchang, Korea, December 19~21, 2018. (Excellent Student Paper Awarded)
- Hyundo Lee, **Chung-Yeon Lee**, Injune Hwang, Byoung-Tak Zhang, "Object-aware feature augmentation for robust visual SLAM of mobile robots," *Korea Software Congress 2018 (KSC 2018)*, pp. 1883-1885, Pyeongchang, Korea, December 19~21, 2018. (Excellent Student Paper Awarded)
- Sang-Woo Lee, **Chung-Yeon Lee**, Dong Hyun Kwak, Jung-Woo Ha, Jung-Hee Kim, Byoung-Tak Zhang, "Dual Memory Architecture for Daily Life Pattern Learning based on Wearable Sensor," *Annual Conference of Korean Society of Cognitive Science*, May 2017.
- **Chung-Yeon Lee**, Dong-Sig Han, Byoung-Tak Zhang, "Event segmentation by generating descriptions of life-logging image stream," *Proc. Korea Computer Congress 2016 (KCC 2016)*, pp. 856–858, Jeju, Korea, June 29~July 1, 2016. (Excellent Presentation Awarded)



- Dong-Sig Han, **Chung-Yeon Lee**, Byoung-Tak Zhang, "Temporal dynamic memory networks and data augmentation for question answering optimization," *Proc. Korea Computer Congress 2016 (KCC 2016)*, pp. 818–820, Jeju, Korea, June 29–July 1, 2016. (Excellent Paper Awarded)
- **Chung-Yeon Lee**, Dong-Hyun Kwak, Beom-Jin Lee, Byoung-Tak Zhang, "Event Cognition-based Daily Activity Prediction from Wearable Sensors," *Proc. The 42th Winter Conference of Korean Institute of Information Scientists and Engineers*, pp. 616–618, December 12–17, 2015. (Best Paper Awarded)
- Jae-Kyu Oh, **Chung-Yeon Lee**, Byoung-Tak Zhang, "Analyzing multi-sensory data of smartwatch for tipsiness status," *Proc. The 42th Winter Conference of Korean Institute of Information Scientists and Engineers*, pp. 610–612, December 12–17, 2015. (Excellent Paper Awarded)
- Hanock Kwak, **Chung-Yeon Lee**, Beom-Jin Lee, Byoung-Tak Zhang, "One-shot online learning for joint bayesian model-based face recognition," *Proc. The 42th Winter Conference of Korean Institute of Information Scientists and Engineers*, pp. 657–659, December 12–17, 2015.
- **Chung-Yeon Lee**, Dong Hyun Kwak, Hanock Kwak and Byoung-Tak Zhang, "Activity recognition by learning auditory-visual lifelogs from wearable sensors," *Proc. Korea Computer Congress 2015 (KCC 2015)*, pp. 921–923, Jeju, Korea, June 24–26, 2015. (Excellent Presentation Awarded)
- Dong Hyun Kwak, **Chung-Yeon Lee**, Hanock Kwak and Byoung-Tak Zhang, "Wearable lifelog learning using sparse hidden state deep recurrent neural network," *Proc. Korea Computer Congress 2015 (KCC 2015)*, pp. 751–753, Jeju, Korea, June 24–26, 2015. (Best Paper Awarded)
- **Chung-Yeon Lee**, Sang-Woo Lee, Dong-Hyun Kwak and Byoung-Tak Zhang, "Wearable lifelog-based context awareness and its application scenario," *Proc. The 41th Winter Conference of Korean Institute of Information Scientists and Engineers*, pp. 337–339, Pyeongchang, Korea, December 18–20, 2014. (Excellent Presentation Awarded)
- Beom-Jin Lee, **Chung-Yeon Lee** and Byoung-Tak Zhang, "RGB-D-T face recognition using convolutional-recursive deep learning," *Proc. The 41th Winter Conference of Korean Institute of Information Scientists and Engineers*, pp. 616–618, Pyeongchang, Korea, December 18–20, 2014. (Excellent Presentation Awarded)
- **Chung-Yeon Lee**, Byoung-Tak Zhang, "Place recognition using ensemble learning of audio-vision-location integrated information," *Proc. Korea Computer Congress 2014 (KCC 2014)*, pp. 353–355, Pusan, Korea, June 25–27, 2014. (Excellent Presentation Awarded)
- **Chung-Yeon Lee**, Byoung-Tak Zhang, "Effective EEG connectivity analysis of memory processing in the brain," *Proc. The 40th Fall Conference of Korean Institute of Information Scientists and Engineers*, Vol. 40, pp. 695–697 Jeju, Korea, November 15–16, 2013. (Excellent Presentation Awarded)
- **Chung-Yeon Lee**, Byoung-Tak Zhang, "Brain-behavior analysis of multimodal episodic memory formation," *Proc. Korea Computer Congress 2013 (KCC 2013)*, pp. 1417–1419, Yeosu, Korea, June 26–28, 2013. (Excellent Presentation Awarded)
- **Chung-Yeon Lee**, Beom-Jin Lee, Jung-Woo Ha, Byoung-Tak Zhang, "Place recognition by learning mobile vision-location data," *Proc. The 39th Fall Conference of Korean Institute of Information Scientists and Engineers*, Vol. 39, No. 2(B), pp. 247–249, Daejeon, Korea, November 23–24, 2012. (Excellent Presentation Awarded)
- Joon Shik Kim, Jong-min Lee, **Chung-Yeon Lee**, Byoung-Tak Zhang, "Prediction of cognitive tasks via Hypernetwork sampling of EEG data," *Proc. The 39th Fall Conference of Korean Institute of Information Scientists and Engineers*, Vol. 39, No. 2(B), pp. 168–170, Daejeon, Korea, November 23–24, 2012.



- Joon Shik Kim, **Chung-Yeon Lee**, Byoung-Tak Zhang, "Particle filter inspired probability prediction model for the sequence of EEG tasks," *Proc. Fall Conference of Korean Institute of Intelligent Systems (KIIS)*, Vol. 22, No. 2, pp. 258–260, Seoul, Korea, November 9~10, 2012.
- **Chung-Yeon Lee** Beom-Jin Lee, Byoung-Tak Zhang, "Electrooculogram-based scene transition detection for interactive video retrieval," *Proc. Korea Computer Congress 2012 (KCC 2012)*, Vol. 39, No. 1(B), pp. 408–410, Jeju, Korea, June 27~29, 2012.
- Joon Shik Kim, **Chung-Yeon Lee**, Byoung-Tak Zhang, "Principal component analysis of higher-order hyperedges in EEG data," *Proc. Korea Computer Congress 2012 (KCC 2012)*, Vol. 39, No. 1(B), pp. 414–416, Jeju, Korea, June 27~29, 2012.
- Joon Shik Kim, **Chung-Yeon Lee**, Minsu Zhang, Kyoung-Tae Kim, Mun-Gon Nam, and Jun-Hee Nam, "Zipf's law and the N-gram analysis of TV drama scripts," *Proc. Spring Conference of Korean Institute of Intelligent Systems (KIIS)*, Vol. 22(1), pp. 217, Mokpo, Korea, April 19~20, 2012.
- **Chung-Yeon Lee**, Ji-seob Kim, Eun-Sol Kim, Karinne Ramirez Amaro, Michael Beetz, Byoung-Tak Zhang, "Learning and generation of human motion using Boltzmann machines," *Proc. The 38th Fall Conference of Korean Institute of Information Scientists and Engineers*, Vol. 38, No. 2(B), pp. 357–360, Seoul, Korea, October 25~26, 2011.
- Joon Shik Kim, **Chung-Yeon Lee**, Eun-Sol Kim and Byoung-Tak Zhang, "Characterization of actors in TV drama via complex network measures," *The 38th Fall Conference of Korean Institute of Information Scientists and Engineers*, Vol. 38, No. 2(B), pp. 295–298, Seoul, Korea, October 25~26, 2011.
- **Chung-Yeon Lee** Eun-Sol Kim, Sangwoo Lee, Bongkyung Ko, Joon Shik Kim, Byoung-Tak Zhang, "Properties of human cognitive learning in a movie scene-dialogue memory game using EEG-based brain function analysis," *Proc. Korea Computer Congress 2011 (KCC 2011)*, Vol. 38, No. 1(B), pp. 210–213, Vol. 38, No. 1(c), pp.210–213, Gyeongju, Korea, June 29~July 1, 2011.
- Eun-Sol Kim, **Chung-Yeon Lee**, Ki-Seok Kevin Lee, Hyunmin Lee, Joon Shik Kim, Byoung-Tak Zhang, "Searching for spatio-temporal pattern in EEG signal with Hypernetwork," *Proc. Korea Computer Congress 2011 (KCC 2011)*, Vol. 38, No. 1(C), pp. 331–334, Vol. 38, No. 1(c), pp.331–334, Gyeongju, Korea, June 29~July 1, 2011.
- Joon Shik Kim, Eun-Sol Kim, Byoung-Kwon Lim, **Chung-Yeon Lee**, Byoung-Tak Zhang, "Indian buffet process inspired component analysis for fMRI data," *Proc. Korea Computer Congress 2011 (KCC 2011)*, Vol. 38, No. 1(c), pp.191–194, Gyeongju, Korea, June 29~July 1, 2011.
- **Chung-Yeon Lee** and Seongah Chin, "Facial soft-tissue depth map using Thin-plate spline," *Proc. The 32th Fall Conference of The Institute of Electronics Engineers of Korea (IEEK)*, pp. 449–450, Seoul, Korea, November 2010.
- Sangyong Lee, **Chung-Yeon Lee**, and Seongah Chin, "Vivid face in game using BCI," *Proc. The 32th Fall Conference of The Institute of Electronics Engineers of Korea (IEEK)*, pp. 490–491, Seoul, Korea, November 2010. (Excellent Presentation Awarded)
- **Chung-Yeon Lee** and Seongah Chin, "A selection of EEG electrodes supporting emotion recognition for design of compact BCI," *Proc. The 33th Summer Conference of The Institute of Electronics Engineers of Korea (IEEK)*, pp. 1553–1554, Jeju, Korea, June 2010.
- **Chung-Yeon Lee**, Jaedong Lee, and Seongah Chin, "Face recognition-based automatic tagging scheme for social network service," *Proc. The 31th Fall Conference of The Institute of Electronics Engineers of Korea (IEEK)*, pp. 369–370, Seoul, Korea, November 2009.

## WORKSHOP PAPERS, POSTERS, AND ABSTRACTS

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