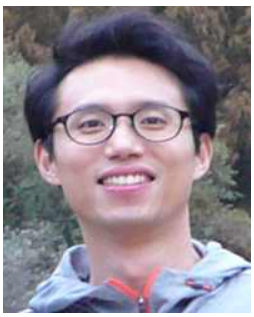
**Dr. Jae Young Choi**
Feb., 01, 2023

## PERSONAL INFORMATION



Last name: Choi
First name: Jae Young
Date of birth: Aug. 23, 1980
Nationality: Republic of Korea
Gender: male

**Address of current job position**:
Associated Professor, Division of Computer Engineering, Hankuk University of Foreign Studies (HUFS)
Yongin-si, Gyeonggi-do 17035, Republic of Korea
Director, Pattern Recognition and Machine Intelligence (PMI) Lab. (website : lab.hufs.ac.kr/pmi)
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## EDUCATION

*Korea Advanced Institute of Science and Technology (KAIST), Daejeon, Republic of Korea*

**Ph.D. degree** **02.2008 – 08.2011**
Major: Electrical Engineering
Title dissertation: "Improved Face Recognition Using Color Features in Multichannel Face Images"
Advisor: prof. Yong Man Ro

*Korea Advanced Institute of Science and Technology (KAIST), Daejeon, Republic of Korea*
**03.2006 – 02.2008**

**Master Degree**
Major: Information and Communication Engineering
Title thesis: "Analysis of Color Effect on the Face Recognition with Spatial Constraints"
Advisor: prof. Yong Man Ro

*Kwangwoon University, Seoul, Republic of Korea*
**03.2000 – 02.2004**

**Bachelor Degree**
Major: Electrical Engineering
Double major: Automatic Control and Robot Engineering
Undergraduate thesis: "Smart Home Automation and Robot Control Using Speech Recognition"

## EMPLOYMENT

*Division of Computer Engineering, Hankuk University of Foreign Studies,*
*Republic of Korea*

**Associate Professor** **09.2016 –current**

Job description:
- Ongoing development of deep learning based patten recognition and machine learning applications
- Ongoing development of facial image recognition using deep ensemble learning
- Ongoing development of facial expression based emotion recognition using deep ensemble learning
- Ongoing development of deep learning based image restoration and image translation
- Ongoing development of deep learning based object detection, tracking, and recognition
- Ongoing development of human fatigue analysis caused by sleep deprivation using deep learning based face analysis

*Department of Computer Engineering, Jungwon University, Chungbuk, Republic of Korea*

**Assistant Professor** **09.2014 –08.2016**

Job description:
- Ongoing development of real-time stress monitoring technique using multi-modal sensing information fusion with user context
- Ongoing development of human emotion recognition using ensemble deep learning
- Ongoing development of high-speed and high-performance face recognition in Big Data Environment

*R&D Team 2, Health & Medical Equipment, SAMSUNG ELECTRONICS, Suwon, Republic of Korea*

**Senior Engineer** **09.2013 –08.2014**

Job description:
- Development of a new ensemble classification algorithm for view-plane automatic recognition in echocardiographic Computer-aided Diagnosis (CAD)
- Development of Active Shape Model (ASM) based segmentation algorithm for automatic chamber labeling on echocardiographic images
- Development of ultrasound image enhancement techniques

*Center for Biomedical Image Computing and Analytics, University of Pennsylvania (UPenn), Philadelphia, USA*

**Postdoctoral Fellow** **07.2012 –06.2013**

Job description:
- performed research on "Breast tomosynthesis texture-based segmentaiton for volumetric density estimation"
- Development of false-positive recall prediction model
- Medical statistical analysis
- 3D Reconstruction
- Full Field Digital Mammography (FFDM) imaging physics
- Digital Breast Tomosynthesis (DBT) imaging physics

*Bell Canada Multimedia Lab, University of Toronto, Toronto, Canada*

**Visiting Researcher** **11.2011 – 05.2012**

Job description:
- performed research on developing "multi-classifier ensemble selection" and "ensemble fusion" algorithms for the detection, classification, and diagnosis of breast masses on mammograms
- Machine learning and pattern classification for computer-aided detection and diagnosis of mammographic lesions
- Computer-aided detection and diagnosis of breast cancer in mammography

*Image and Video Systems Lab, Korea Advanced Institute of Science and Technology (KAIST), Daejeon, Republic of Korea*

**Postdoctoral Researcher** **09.2011 – 06.2012**

Job description:

- performed research on medical image processing, face recognition, pattern recognition, machine learning, computer vision, image/video indexing and search
- technical guidance of Master and Ph.D students with their research on face recognition, medical image processing, multimedia indexing and search, machine learning, and computer vision

*Bell Canada Multimedia Lab, University of Toronto, Toronto, Canada*

**Visiting Researcher** **09.2008 – 01.2009**

Job description:

- performed research on "analysis of the effect of preprocessing mismatch problem on color face recognition"
- performed research on "context-assisted face annotation for persona photos" under supervision of prof. Konstantinos N. Plataniotis

*Image and Video Systems Lab, Korea Advanced Institute of Science and Technology (KAIST), Daejeon, Republic of Korea*

**Research Assistant** **02.2006 – 08.2011**

Job description:

- performed research on medical image processing, face recognition/face detection/face tracking, pattern recognition, machine learning, computer vision, image/video indexing and search
- technical guidance of Master's students with their research on pattern recognition, medical image processing, multimedia indexing and search, machine learning, and computer vision
- project work and work package management

## SCHOLARSHIPS, HONORS, AND AWARDS

[1] Hankuk University of Foreign Studies (HUFS) Excellence in Research Award (2021)
[2] Outstanding publication award "MRI Segmentation and Classification of Human Brain Using Deep Learing for Diagnosis of Alzheimer's Disease: A Survey" for the Sensors Journal (2021)
[3] Best paper award "Deep Neural Networks Learning based on Multiple Loss Functions for Both Person and Vehicle Re-Identification" from the Korea Multimedia Socieity (2021)
[4] Outstanding paper award from the 33$^{th}$ Workshop on Image Processing and Image Understanding (IPIU 2021)
[5] Outstanding paper award from the 31$^{th}$ Workshop on Image Processing and Image Understanding (IPIU 2019)
[6] Outstanding poster presentation award from the 30$^{th}$ Workshop on Image Processing and Image Understanding (IPIU 2018)
[7] Marquis Who's Who in the World 2016 (33rd Edition)
[8] Postdoctoral fellowship from the University of Pennsylvania (UPenn) (2012)
[9] Bronze medal prize from the competition of Samsung Human Tech. student paper award (2011)
[10] Outstanding paper entitled by "Detection of Breast Tumors in Mammograms By Iso intensity Contour Map and Region Based Stellate Features" awarded at Korea Multimedia Society (2011)
[11] Outstanding paper entitled by "Face Recognition for Automatic President Face Indexing in Videos" awarded at Korea Multimedia Society (2010)
[12] Excellent research student prize awarded at KAIST Electrical Engineering Dept. (2010)
[13] Excellent research student prize awarded at KAIST Electrical Engineering Dept. (2009)
[14] Honor master graduate student prize from Korea Institute for Information Technology Advancement (2008)

## RESEARCH PROJECT GRANTS

[1] **Principal Investigator (PI)**, "CCTV image analysis for wave-overstopping detection, tracking, and 3D reconstruction for developing wave-overstopping monitoring platform", 1120M won (about $910K USD), 2022-2027, award from the Korea Institute of Marine Science Technology Promotion (KIMST)

[2] **PI**, "Development of Deep Fusion Network with Multi-Attention Mechanism for Multi-Modal Image Recognition", 500M won (about $412K USD), 2021-2026, award from the National Research Foundation (NRF)

[3] **PI**, "Development of AI comb platform for pet skin diagnosis and treatment", 140M won (about $115K USD), 2021-2022, award from the Institute of Information & Communication Technology Plannnig & Evaluation (IITP)

[4] **PI**, "Development of short-term prediction tools for fine dust using artificial intelligence algorithms", 120M won (about $99K USD), 2021-2022, award from the National Institute of Environmental Research (NIER)

[5] **PI**, "Pre-research on drowsiness and fatigue analysis of subjects using an artificial intelligence-based facial feature analysis", 50M won (about $41K USD), 2021, award from the Kosleep Clinic

[6] **PI**, "Development of marine satellite image restoration and improvement technology", 420M won (about $346K USD), 2021-2025, award from the Korea Institute of Marine Science Technology Promotion (KIMST)

[7] **PI**, "Moving object detection, tracking, and re-identifiaton in a semi stationary CCTV", 66M won (about $54K USD), 2020, award from the StradVision Inc.

[8] **PI**, "Development of deep learning basic technology and user interface S/W tools for marine information analysis", 134M won (about $110K USD), 2019-2020, award from the GeoSystem Research Inc.

[9] **PI**, "Development of artificial intelligence based satellite image restoration and prediction technology", 90M won (about $74K USD), 2019-2020, award from the Korea Institute of Marine Science Technology Promotion (KIMST)

[10] **PI**, "Development of deep learning based algorithm for glass crack detection", 55M won (about $45K USD), 2018, award from the Sonics Inc.

[11] **PI**, "Development of Deep Learning Based Face Recognition in Big Data Environment", 150M won (about $123K USD), 2018-2021, award from the National Research Foundation (NRF)

[12] **PI**, "Development of deep learning-based classifier algorithm for automatic diagnosis of dementia using MRI", 80M won (about $66K USD), 2017-2019, award from the National Research Foundation (NRF)

[13] **PI,** Automated Stress Index Recognition for Preventing and Releasing Human Anger, 75M won(about $61K USD), 2016-2017, award from the Ministry of Science, ICT and Future Planning (X-Project)

[14] **PI,** Development of High-Performance Automated Face Recognizer on Multimedia Big Data, 150M won (about $123K USD), 2015-2018, award from the National Research Foundation (NRF)

## COMPUTER SKILLS

**Programming skills**: Tensorflow, Pytorch, Python, C/C++, Visual C++, Java/Mobile Java programmings, Matlab, Assembly, 3D slicer, IBM SPSS statistics, Insight Toolkit (ITK) for 3D medical image processing

**H/W experience**: ARM Cortex-M3 Processor, Intel's 80C32 Microcontroller board design, Microchip's PIC controller board design, TI's TMS320C32 DSP software, TI's TMS320C6000 DSP software, Intel's 80C196 board design

**OS experience**: XP/Vista/Window 7/Window 8/Window 10/Linux

## TEATCHING EXPERIANCE

- **Instructor: Deep Reinforcement Learning**
  Hankuk University of Foreign Studies, Spring 2021, Spring 2022
- **Instructor: Probability and Statistics**
  Hankuk University of Foreign Studies, Fall 2020, Fall 2021
- **Instructor: Introduction to Deep Learning**
  Hankuk University of Foreign Studies, Fall 2020, Fall 2021
- **Instructor: Python Programming**
  Hankuk University of Foreign Studies, Spring 2020, Spring 2021, Spring 2022
- **Instructor: Artificial Intelligence**
  Hankuk University of Foreign Studies, Fall 2018, Fall 2019
- **Instructor: Pattern Recognition**
  Hankuk University of Foreign Studies, Spring 2018, Spring 2019
- **Instructor: Multimedia Systems**
  Hankuk University of Foreign Studies, Fall 2018
- **Instructor: Discrete Mathmatices**
  Hankuk University of Foreign Studies, Spring 2017, Spring 2018, Spring 2019
- **Instructor: Big Data**
  Hankuk University of Foreign Studies, Spring 2017~2022
- **Instructor: Microprocessor Design and Programming**
  Hankuk University of Foreign Studies, Fall 2016, Fall 2017, Fall 2018
- **Instructor: Image Processing**
  Jungwon University, Fall 2015
- **Instructor: Engineering Mathematics**
  Jungwon University, Fall 2015
- **Instructor: C++ Programming**
  Jungwon University, Spring 2015, Spring 2016
- **Instructor: Probability and Statistics**
  Jungwon University, Spring 2015, Spring 2016
- **Instructor: Embedded Microprocessor Design and Programming**
  Jungwon University, Spring 2015, Spring 2016
- **Instructor: Biomedical Signal Processing**
  Jungwon University, Fall 2014, Fall 2015
- **Instructor: Electromagnetics**
  Jungwon University, Fall 2014, Fall 2015
- **Instructor: Capstone Design**
  Jungwon University, Fall 2014

## INTERNATIONAL JOURNAL PUBLICATIONS

[1] Min Ho Kwak, Youngwoo Kim and **Jae Young Choi**. Convolution Block Feature Addition Module (CBFAM) for Lightweight and Fast Object Detection on Non-GPU Devices. *Submitted to Electronic Letters*, 2022.

[2] **Jae Young Choi** and Bumshik Lee. Combining Deep Convolutional Neural Networks with Stochastic Ensemble Weight Optimization for Facial Expression Recognition in the Wild. *IEEE Trans. on Multimedia*, Oct., 2021 (Early Access). (SCI, IF: 6.513)

[3] **Jae Young Choi** and Bumshik Lee. Ensemble of Deep Convolutional Neural Networks with Gabor Face

Representations for Face Recognition. *IEEE Trans. on Image Processing*, vol. 29, pp. 3270-3281, Jan., 2020. (SCI, IF: 10.856, Citation: 18)

[4] **Jae Young Choi** and Bumshik Lee. Combining of Multiple Deep Networks via Ensemble Generalization Loss, based on MRI Images, for Alzheimer's Disease Classification. *IEEE Signal Processing Letters*, vol. 27, pp. 206-210, Jan., 2020 (SCI, IF: 3.268, Citation: 13)

[5] Chaitra Dayananda, **Jae Young Choi** and Bumshik Lee. Multi-Scale Squeeze U-SegNet with Multi Global Attention for Brain MRI Segmentation. *Sensors*, vol. 21, no. 10, May, 2021. (SCIE, IF: 3.576)

[6] Song-Hee Kang, Youngjin Choi, and **Jae Young Choi**. Restoration of Missing Patterns on Satellite Infrared Sea Surface Temperature Images Due to Cloud Coverage Using Deep Generative Inpainting Network. *Journal of Marine Science and Engineering*, vol. 9, no. 3, pp. 1-19, March, 2021. (SCIE, IF: 2.458)

[7] Kyeong Tae Kim, Bumshik Lee, and **Jae Young Choi**. 3D-2D deep convolutional neural Networks (DCNN) Cascade fro robust video face identification. *Multimedia Tools and Applications,* vol. 80, pp. 4023-4036, 2021. (SCIE, IF: 2.757)

[8] Nagaraj Yamanakkanavar, **Jae Young Choi,** and Bumshik Lee. MRI Segmentation and Classification of Human Brain Using Deep Learning for Diagnosis of Alzheimer's Disease: A Survey. *Sensors*, vol. 20, no. 11, pp. 1-28, Jun, 2020. (SCIE, IF: 3.576, Citation: 37)

[9] Bumshik Lee, Nagaraj Yamanakkanavar, and **Jae Young Choi**. Automatic segmentation of brain MRI using a novel patch-wise U-net deep architecture. PLUS ONE, vol. 16, no. 1, pp. 1-20, Aug., 2020. (SCIE, IF: 3.24, Citation: 21)

[10] Sarala Ghimire, **Jae Young Choi,** and Bumshik Lee. Using Blockchain for Improved Video Integrity Verification. *IEEE Trans. on Multimedia,* vol. 22, no. 1, pp. 108-121, Jan., 2020. (SCI, IF: 6.513, Citation: 22)

[11] **Jae Young Choi** and Bumshik Lee. Combining LSTM Network Ensemble via Adaptive Weighting for Improved Time Series Forecasting. *Mathematical Problem in Engineering*, vol. 2018, no. 2470171, pp. 1-8, Aug., 2019. (SCIE, IF: 1.305, Citation: 61)

[12] **Jae Young Choi.** Weighted fusion joint bayesian metric with patch-based facial region-specific features for face identification. *Multimedia Tools and Applications,* vol. 78, no. 17, pp. 24883-24092, Sep., 2019. (SCIE, IF: 2.757)

[13] Muhammad Ammar Malik, **Jae Young Choi**, Moonsoo Kang, and Bumshik Lee**.** Improved Majority Filtering Algorithm for Cleaning Class Label Noise in Supervised Learning. *IEICE Trans. Fundamentals*, vol. E102-A, no. 11, pp. 1556-1559, Nov., 2019. (SCIE, IF: 0.50)

[14] Bumshik Lee, Waqas ELLAHI, and **Jae Young Choi**. Using Deep CNN with Data Permutation Scheme for Classification of Alzheimer's Disease in Structural Magnetic Resonance Imaging (sMRI). *IEICE Trans. Information and Systems*, vol. E102-D, no. 7, pp. 1384-1395, July, 2019. (SCIE, IF: 0.84)

[15] Bumshik Lee and **Jae Young Choi**. A Rate Perceptual-Distortion Optimized Video Cdoing HEVC. *IEICE Trans. Information and Systems*, vol. E101-D, no. 12, pp. 3158-3169, Dec., 2018. (SCIE, IF: 0.84)

[16] **Jae Young Choi**. Spatial pyramid face feature representation and weighted dissimilarity matching for improved face recognition. *The Visual Computer*, vol. 34, no. 11, pp. 1535-1549, Nov., 2018. (SCIE, IF: 2.601, Citation: 6)

[17] Youngjin Choi, Hyeong-Gu Choe, **Jae Young Choi**, Kyeong Tae Kim, Jong-Beom Kim. Automatic Sea Fog Detection and Estimation of Visibility Distance on CCTV. *Journal of Coastal Research*, vol. 85, no. 10085, pp. 881-885, May, 2018. (SCIE, IF: 0.854)

[18] **Jae Young Choi**. Color Compensation via Color-Flow Representation and Eigenspace Manifold Learning for Robust Color-Invariant Face Recognition. *Multidimensional Systems and Signal Processing*, vol. 29, no. 01, pp. 77-97, Jan., 2018. (SCI, IF: 2.10)

[19] **Jae Young Choi**. Improved deep face identification with multi-class pairwise discriminant loss. *Electronics Letters,* vol. 53, no. 20, pp. 1356-97, Setp., 2017. (SCI, IF: 1.314)

[20] **Jae Young Choi**. Feature subspace estimation for resolving dimensionality mismatch in practical color-based face recognition systems. *International Journal of Pattern Recognition and Artificial Intelligence*, vol. 30, no. 04, pp. (1656004-1)-(1656004-24), April, 2016. (SCI, IF: 1.60)

[21] Hyungil Kim**, Jae Young Choi**, Seung-Ho Lee, and Yong Man Ro. Feature Scalability for a Low

Complexity Face Recognition with Unconstrained Spatial Resolution. *Multimedia Tools and Applications*, vol. 75, no. 12, pp. 6887-6908, Jun, 2016. (SCIE, IF: 2.757)

[22] **Jae Young Choi**, Dae Hoe Kim, Konstantinos N. Plataniotis, and Yong Man Ro. Classifier Ensemble Generation and Selection with Multiple Feature Representations for Classification Applications in Computer-Aided Detection and Diagnosis on Mammography. *Expert Systems with Applications*, vol. 46, no. 15, Mar., pp. 106-121, 2016. (SCI, IF: 6.954, Citation: 56)

[23] Dae Hoe Kim, **Jae Young Choi**, and Yong Man Ro. Region Based Stellate Features Combined with Variable Selection Using AdaBoost Learning in Mammographic Computer-aided Detection. *Computers in biology and medicine*, vol. 63, no. 3, pp. 238-250, Aug., 2015. (SCI, IF: 4.589)

[24] Se Min Kim**, Jae Young Choi**, Seungwan Han, and Yong Man Ro. Weighted adaptive fusion of spatial and temporal modalities for video copy detection. *Signal Processing: Image Communication*, vol. 29, no. 7, pp. 788-806, Aug., 2014. (SCI, IF: 4.17, Citation: 25)

[25] **Jae Young Choi**, Dae Hoe Kim, Konstantinos N. Plataniotis, and Yong Man Ro. Computer-Aided Detection (CAD) of Breast Masses in Mammography: Combined Detection and Ensemble Classification. *Physics in Medicine and Biology*, vol. 59, no. 10, pp. 3697-3719, June, 2014. (SCI, IF: 3.609, Citation: 20)

[26] Jae Hyun Jeon, **Jae Young Choi**, Sihyung Lee**,** and Yong Man Ro. Multiple ROI Selection Based Focal Liver Lesion Classification in Ultrasound Images. *Expert Systems with Applications,* vol. 40, no. 2, pp. 450-457, Feb., 2013. (SCI, IF: 6.954, Citation: 42)

[27] **Jae Young Choi** and Yong Man Ro. Multiresolution Local Binary Pattern Texture Analysis Combined with Variable Selection for an Application to False Positive Reduction in Computer-Aided Detection of Breast Masses on Mammograms. *Physics in Medicine and Biology*, vol. 57, no. 21, pp. 7029-7052, Oct., 2012. (SCI, IF: 3.609, Citation: 42)

[28] **Jae Young Choi**, Konstantinos N. Plataniotis, and Yong Man Ro. Face Feature Weighted Fusion Based Fuzzy Membership Degree for Video Face Recognition. *IEEE Trans. on Systems. Man and Cybernetics-Part B.*, vol. 42, no. 4, pp. 1270-1282, Aug., 2012. (SCI, IF: 11.448, Citation: 25)

[29] Hyun-seok Min, **Jae Young Choi**, Wesley De Neve, and Yong Man Ro. Near-Duplicate Video Clip Detection Using Model-Free Semantic Concept Detection and Adaptive Semantic Distance Measurement. *IEEE Trans. on Circuits and Systems for Video Technology*, vol. 22, no. 8, pp. 1174-1187, Aug., 2012. (SCI, IF: 6.01, Citation: 18)

[30] Seung-Ho Lee**, Jae Young Choi**, Yong Man Ro, and Konstantinos N. Plataniotis. Local Color Vector Binary Patterns From Multichannel Face Images for Face Recognition. *IEEE Trans. on Image Processing,* vol. 21, no. 4, pp. 2347-2353, April, 2012. (SCI, IF: 10.856, Citation: 151)

[31] **Jae Young Choi**, Yong Man Ro, and Konstantinos N. Plataniotis. Color Local Texture Features for Color Face Recognition. *IEEE Trans. on Image Processing,* vol. 21, no. 3, pp. 1366-1380, March, 2012. (SCI, IF: 10.856, Citation: 184)

[32] Hyun-seok Min, **Jae Young Choi**, Wesley De Neve, and Yong Man Ro. Bimodal Fusion of Low-level Visual Features and High-Level Semantic Features for Near-duplicate Video Clip Detection. *Signal Processing: Image Communication*, vol. 26, no. 10, pp. 612-627, Nov., 2011. (SCI, IF: 4.17, Citation: 11)

[33] **Jae Young Choi**, Yong Man Ro, and Konstantinos N. Plataniotis. Boosting Color Feature Selection for Color Face Recognition. *IEEE Trans. on Image Processing,* vol. 20, no. 5, pp. 1425-1434, May, 2011. (SCI, IF: 10.856, Citation: 83)

[34] **Jae Young Choi**, Wesley De Neve**,** Konstantinos N. Plataniotis, Yong Man Ro. Collaborative Face Recognition for Improved Face Annotation in Personal Photo Collections Shared on Online Social Networks. *IEEE Trans. on Multimedia,* vol. 13, no. 1, pp. 14-28, Feb., 2011. (SCI, IF: 6.513, Citation: 131)

[35] **Jae Young Choi**, Yong Man Ro, and Konstantinos N. Plataniotis. A Comparative Study of Preprocessing Mismatch Effects in Color Image Based Face Recognition. *Pattern Recognition*, vol. 44, no. 2, pp. 412-430, Feb., 2011. (SCI, IF: 7.74, Citation: 44)

[36] **Jae Young Choi**, Wesley De Neve**,** Yong Man Ro, Konstantinos N. Plataniotis. Automatic Face Annotation in Personal Photo Collections Using Context-Based Unsupervised Clustering and Face Information Fusion. *IEEE Trans. on Circuits and Systems for Video Technology*, vol. 20, no. 10, pp. 1292-1309, Oct., 2010. (SCI, IF: 6.01, Citation: 39)

[37] **Jae Young Choi**, Wesley De Neve, Yong Man Ro. Towards an Automatic Face Indexing System for Actor-based Video Services in an IPTV Environment. *IEEE Trans. on Consumer Electronics*, vol. 56. no. 1, pp. 147-155, Feb., 2010. (SCIE, IF: 2.74, Citation: 32)

[38] **Jae Young Choi**, Yong Man Ro, and Konstantinos N. Plataniotis. Color Face Recognition for Degraded Face Images. *IEEE Trans. on Systems. Man and Cybernetics- Part B*, vol. 39, no. 5, pp. 1217-1230, Oct., 2009. (SCI, IF: 11.448, Citation: 138)

## Domestic Journal Publications

[1] Kyeong-Tae kim, Wonsang You, and **Jae Young Choi**. Attention Deep Neural Networks Learning based on Multiple Loss functions for Video Face Recognition (비디오 얼굴인식을 위한 다중 손실 함수 기반 어텐션 심층신경망 학습 제안). *Journal of Korea Multimedia Society*, vol. 24, no. 19, pp. 1380-1390, Oct., 2021.

[2] Joo Young Yun, Kyeong-Tae kim and **Jae Young Choi**. Using 3D Deep Convolutional Neural Network with MRI Biomarker patch Images for Alzheimer's Disease Diagnosis (치매 진단을 위한 MRI 바이오마커 패치 영상 기반 3 차원 심층합성곱신경망 분류 기술). *Journal of Korea Multimedia Society*, vol. 23, no. 8, pp. 940-952, Aug., 2020.

[3] Kyung Shin Yoon and **Jae Young Choi**. Compressed Ensemble of Deep Convolutional Neural Networks with Global and Local Facial Features for Improved Face Recognition (얼굴인식 성능 향상을 위한 얼굴 전역 및 지역 특징 기반 앙상블 압축 심층합성곱신경망 모델 제안). *Journal of Korea Multimedia Society*, vol. 23, no. 8, pp. 1019-1029, Aug., 2020.

[4] Kyeong-Tae kim and **Jae Young Choi**. Deep Neual Networks Learning based on Multiple Loss Functions for Both Person and Vehicles Re-Identification (사람과 자동차 재인식이 가능한 다중 손실함수 기반 심층 신경망 학습). *Journal of Korea Multimedia Society*, vol. 23, no. 8, pp. 891-902, Aug., 2020.

[5] Kyeong-Tae kim and **Jae Young Choi**. Development of Combined Architecture of Multiple Deep Convolutional Neural Networks for Improving Video Face Identification (비디오 얼굴 식별 성능개선을 위한 다중 심층합성곱신경망 결합 구조 개발). *Journal of Korea Multimedia Society*, vol. 22, no. 6, pp. 655-664, June, 2019.

[6] Joo Hyung Son, Kyeong-Tae kim and **Jae Young Choi**. Alzheimer's Disease Classification with Automated MRI Biomarker Detection Using Faster R-CNN for Alzheimer's Disease Diagnosis (치매 진단을 위한 Faster R-CNN 활용 MRI 바이오마커 자동 검출 연동 분류 기술 개발). *Journal of Korea Multimedia Society*, vol. 22, no. 10, pp. 1168-1177, Oct., 2019.

[7] Kyeong-Tae kim and **Jae Young Choi**. Facial Local Region Based Deep Convolutional Neural Networks for Automated Face Recognition (자동 얼굴인식을 위한 얼굴 지역 영역 기반 다중 심층 합성곱 신경망 시스템). *Journal of the Korea Convergence Society***,** vol.9 no.4 , pp.47-55, 2018

[8] Kyeong-Tae kim and **Jae Young Choi**. Weighted Soft Voting Classification for Emotion Recognition from Facial Expressions on Image Sequences (이미지 시퀀스 얼굴표정 기반 감정인식을 위한 가중 소프트 투표 분류 방법). *Journal of Korea Multimedia Society*, vol. 20, no. 8, pp. 1175-1186, Aug., 2017.

## Conference Papers (International)

[1] Min Ho Kwak and **Jae Young Choi**. Generative Adversarial Network with Modified Contents Loss for Image-to-Image Translation. *2021 Int'l Conf. on Multimedia Information Technology and Applications,* Jeju Island, Korea, July, 2021.

[2] Eunyeong Hong, Songhee Kang, Eunae Lee, Namjo Yoo, **Jae Young Choi** and Dong Sik Kim. Pixel-defect corrections for radiography detectors based on deep learning. *2020 SPIE Medical Imaging*, Houston, Texas, USA, 2020.

[3] Kyeong-Tae kim, Joo-Hyung Son, and **Jae Young Choi.** Video Face Recognition Using Combination of Joint Bayesian Metric Scores with Deep Face Features. *2018 Int'l Conf. on Innovative Convergence Technology*, Jeju Island, Korea, Oct., 2018.

[4] Shonket Ray, **Jae Young Choi**, Brad M. Keller, Jinbo Chen, Emily F. Conant, and Despina Kontos. Application of computer-extracted breast tissue texture features in predicting false-positive recalls from