JINKI JUNG

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Address : Room 319, F bldg., Korea Research Institute of Ships and Ocean Engineering, Daejeon, Republic of Korea
Personal webpage : https://jinkijung.github.io/online-cv/
Citations : http://scholar.google.co.kr/citations?user=inzigzUAAAAJ&hl=en&authuser=1

RESEARCH INTERESTS

Augmented Reality / Virtual Reality
Human-Computer Interaction (Natural User Interface)
Computer Vision (Multiple View Geometry / Segmentation / Pattern Recognition)

EDUCATION

Korea Advanced Institute of Science and Technology (KAIST)
Ph.D., Computer Science
Research Topic: Mobile Augmented Reality **2009-2015**
Dissertation: "Real-time Sensor Fusion based Mobile Augmented Reality Framework"
Advisor: Hyun S. Yang

Korea Advanced Institute of Science and Technology (KAIST)
M.S., Computer Science 2009
Research Topic: Natural User Interface for Augmented Reality **2007-2009**
Thesis: "A Real-time Robust Body Part Tracking System for Intelligent Environment"
Advisor: Hyun S. Yang

Soongsil University
B.S., Media Engineering 2007 **2003-2007**

CAREER

Korea Advanced Institute of Science and Technology (KAIST)
Postdoctoral researcher, Information and Electronics Research Institute
Research Topic: Egocentric Hand Interaction using Depth Camera
Virtual Reality for Maritime Safety Training **2015-2016**

Korea Research Institute of Ships and Ocean Engineering (KRISO)
Postdoctoral researcher, Maritime Safety Research Division
Research Topic: Virtual Reality for Maritime Safety Training
Context Awareness for Maritime Safety **2016-**

TECHNICAL SKILLS

Programming Language: C, C++, Java, Objective C, Python, PHP
Mobile Programming: iOS, Android
Web Programming: backend development
Graphics Engine: Unity3D, UE4, OpenGL


Unity Certified Developer

OPEN SOURCE EXPERIENCE

Maritime Connectivity Platform - https://maritimeconnectivity.net :
A global maritime communication framework (Major developer of Identity registry)

3D Road Traffic Simulation - https://github.com/VirtualityForSafety/RoadTrafficSimulation3D :
A virtual traffic simulation based on automatic city generation and intelligent driver model (Major contributor)

GetGes - http://jinkijung.github.io/GetGes/ **:**
An introductory project for gesture recognition using Myo Armbands (Personal project, Major contributor)

PUBLICATIONS

International Journals

Effects of interface on procedural skill transfer in virtual training: Lifeboat launching operation study
Jinki Jung, Young Joong Ahn
Computer Animation and Virtual Worlds 2018

Efficient mobile AR technology using scalable recognition and tracking based on server-client model
Jinki Jung, Jaewon Ha, Sang-Wook Lee, Francisco A Rojas, Hyun S Yang
Computers & Graphics 2012

Real-time recognition and tracking for augmented reality books
Kyusung Cho, **Jinki Jung**, Sang-Wook Lee, Sang Ok Lim, Hyun Seung Yang
Computer Animation and Virtual Worlds 2011

Domestic Journal

Real-time Sensor-aided Scene Analysis based on Line Graph for Mobile Augmented Reality
Jinki Jung
The Journal of Korean Institute of Information Technology 2015

International Conferences

Ensuring Safety in Augmented Reality from Trade-off Between Immersion and Situation Awareness
Jinki Jung, Hyeopwoo Lee, Jeehye Choi, Abhilasha Nanda, Uwe Grünefeld, Tim Claudius Stratmann, Wilko Heuten
17th IEEE International Symposium on Mixed and Augmented Reality (ISMAR 2018) 2018

Guiding Smombies: Augmenting Peripheral Vision with Low-Cost Glasses to Shift the Attention of Smartphone Users
Uwe Grünefeld, Tim Claudius Stratmann, **Jinki Jung,** Hyeopwoo Lee, Jeehye Choi, Abhilasha Nanda, Wilko Heuten
17th IEEE International Symposium on Mixed and Augmented Reality (ISMAR 2018) 2018

An Adaptive Augmented Reality Interface for Hand based on Probabilistic Approach
Jinki Jung, Hyeopwoo Lee, and Hyun Seung Yang
14th IEEE International Symposium on Mixed and Augmented Reality (ISMAR 2015) 2015

Real-time sensor-fusion based Indoor Localization for Mobile Augmented Reality
Jinki Jung, Hyeopwoo Lee, Luis Weruaga, Jamal Zemerly and Hyun Seung Yang
20th International Conf. on Virtual Systems and Multimedia (VSMM 2014) 2014

Augmented Keyboard: a Virtual Keyboard Interface for Smart glasses
Jinki Jung, Jinwoo Jeon, Hyeopwoo Lee, Kichan Kwon, Jamal Zemerly, Hyun S Yang
ACM SIGGRAPH International Conference on Virtual-Reality Continuum and its Applications in Industry (VRCAI 2014) 2014

Smartphone as an augmented reality authoring tool via multi-touch based 3D interaction method
Jinki Jung, Jihye Hong, Sungheon Park, Hyun S Yang
ACM SIGGRAPH International Conference on Virtual-Reality Continuum and its Applications in Industry (VRCAI 2012) 2012

Efficient 3D content authoring framework based on mobile AR
Sang-Wook Lee, **Jinki Jung**, Jihye Hong, Suwon Lee, Hyunwoo Cho, Hyun Seung Yang
18th International Conf. on Virtual Systems and Multimedia (VSMM 2012) 2012

AR paint: a fusion system of a paint tool and AR
Suwon Lee, **Jinki Jung**, Jihye Hong, JB Ryu, Hyun S Yang
International Conference on Entertainment Computing (ICEC 2012) 2012

AR postcard: the augmented reality system with a postcard

Hyunwoo Cho, **Jinki Jung**, Kyusung Cho, Yong-Ho Seo, Hyun S Yang
ACM SIGGRAPH International Conference on Virtual-Reality Continuum and its Applications in Industry (VRCAI 2011) 2011

Mobile Augmented Reality using scalable recognition and tracking
Jaewon Ha, **Jinki Jung**, ByungOk Han, Kyusung Cho, Hyun Seung Yang
Virtual Reality Conference (VR 2011), IEEE 2011

Online scene modeling for interactive AR applications
Jaesang Yoo, Kyusung Cho, **Jinki Jung**, Hyun S Yang
International Conference on Entertainment Computing (ICEC 2010) 2010

Multiple page recognition and tracking for augmented books
Kyusung Cho, Jaesang Yoo, **Jinki Jung**, Hyun S Yang
International Conference on Entertainment Computing (ICEC 2010) 2010

Real-time robust body part tracking for augmented reality interface
Jinki Jung, Kyusung Cho, Hyun S Yang
ACM SIGGRAPH International Conference on Virtual-Reality Continuum and its Applications in Industry (VRCAI 2009) 2009

Hybrid visual tracking for augmented books
Hyun S Yang, Kyusung Cho, Jaemin Soh, **Jinki Jung**, Junseok Lee
International Conference on Entertainment Computing (ICEC 2009) 2009

PATENTS

A virtual keyboard based on hand recognition and implementing method thereof
Korea Patent, 10-1559424, Co-inventor 2015

3D interaction method for Augmented Reality using multi-touch interface
Korea Patent, 10-1338958, Co-inventor 2013

Augmented reality system and method of a printed matter and video
Korea Patent, 10-1197126, Co-inventor 2012

Efficient 3D object recognition using a tree structure
Korea Patent, 10-1068465, Co-inventor 2011

3D OBJECT RECOGNITION SYSTEM AND METHOD
US Patent Pending, 12/912,211, Co-inventor 2010

RESEARCH EXPERIENCES

Virtuality for Safety
Project manager **March 2018 – Now**
Conducted researches on technology-driven safety ensuring components based on VR/AR

VR-simulated Sailor Training Platform for Emergency
Project manager, Researcher **June 2015 – Now**
Developed a sailor training platform for emergency based on VR system that provides natural interaction with virtual ship environment.

KAIST-KUSTAR international joint research of indoor localization and context-aware Augmented Reality
Project manager, Researcher **March 2013 – June 2015**
Designed real-time indoor localization using indoor scene analysis that makes use of line feature and multiple sensors of a mobile device.

Augmented Keyboard: a virtual keyboard interface for smart glasses
Project manager, Researcher **April 2014 – December 2014**

Proposed a novel interaction design and developed a model-based hand palm tracking method for the proposed interface.

Performance optimization of markerless tracking module for mobile devices
Project manager, System engineer **March 2014 – December 2014**
Doubled the tracking performance (FPS) on a mobile device by adapting multi-threaded architecture.

Probabilistic modeling of line-pair appearance for drawing image retrieval
Project manager, Researcher **September 2012 – March 2013**
Proposed a novel histogram based matching method that employs the invariant properties of the pairwise line features.

Real-time 6DOF hand pose estimation for Augmented Reality using RGB camera
Researcher **December 2010 – June 2011**
Developed the appearance based hand pose estimation by modeling spatial structure of skin colored region.

Real-time robust markerless recognition and tracking for Augmented Reality book
Researcher **March 2008 – January 2011**
Developed the robust recognition performance against cluttered background by dividing the screen into multiple areas and separating the corresponding recognition results

Real-time body part tracking and gesture recognition for an intelligent environment
Project manager, Researcher **August 2008 – September 2009**
Proposed the RGB-image based 3D body part tracking method by using Kalman filter.

PhotoGeo: 3D reconstruction of vehicles based on image based rendering modeling (IBMR)
System engineer **March 2007 – November 2007**
Implemented the texturing module and GUI interface of the system.

TEACHING EXPERIENCE

Korea Advanced Institute of Science and Technology (KAIST)
Teaching Assistant – Computer Science 101 (Introduction to programming) **2009 Fall - 2014 Fall**
Developed lab materials, midterm/final exams, and overall web-based course administration

AWARDS

Outstanding Teaching Assistant Award	2009 fall semester
Outstanding Teaching Assistant Award	2010 spring semester
Outstanding Teaching Assistant Award	2010 fall semester
Outstanding Teaching Assistant Award	2012 fall semester
Outstanding Teaching Assistant Award	2013 fall semester

LEADERSHIP SKILLS

Representative of M.S. in CS department, KAIST	2008
Leader of Augmented Reality team of AIM Lab.	2010-2014
Representative student of AIM Lab.	2012-2014

LANGUAGES

English – speak fluently and read/write with high proficiency (lectured in English)
score 905 out of 990 for the TOEIC listening and reading certificate
Korean – native language