

Dr. Jean-Charles BAZIN

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Research interests: Computer Vision and Computer Graphics, especially image/video processing and editing in 2D and 3D

Education

- 09/2006-08/2010 **PhD in Electrical Engineering at Robotics and Computer Vision Lab, KAIST, South Korea**
Thesis title: Catadioptric Vision for Robotic Applications
Advisor: Professor Inso Kweon
Graduation: February 2011 (PhD defense in July 2010)
Committee: Peter Sturm (INRIA, France), Pascal Vasseur (UPJV, France), Jong Beom Ra (KAIST, South Korea), Hyun Wook Park (KAIST, South Korea)
- 09/2001-07/2006 **Engineering degree in Computer Science at Université de Technologie de Compiègne (UTC), France**
Specialization: Computer Vision and Artificial Intelligence
Minor: Philosophy and Cognitive Science
- Exchange student in Computer Science, at KAIST, South Korea (one semester, 2004)
Exchange student in Aeronautics, at NEWI, Great Britain (one semester, 2002)
- 09/2005-07/2006 **Master degree (“*master recherche*”) at UTC, France**
Specialization: Computer Vision and Artificial Intelligence
- 06/2001 **Scientific high school diploma (“*baccalauréat*”), Rennes, France**
Major: mathematics – graduated with honors

Professional and research experience

- 08/2014 - current **Associate Research Scientist at Disney Research Zurich, Switzerland**
Collaborators: Markus Gross and Alexander Sorkine-Hornung
Member of the Imaging and Video Group
- Adjunct Lecturer at ETH Zurich**
- 09/2011-07/2014 **Senior Researcher (*Oberassistent*) at Computer Graphics Lab (CGL) and Computer Vision and Geometry Group (CVG), ETH Zurich, Switzerland**
Collaborators: Prof. Markus Gross and Prof. Marc Pollefeys
Postdoctoral researcher 09/2011 – 12/2013
- Member of the BeingThere Center, a US\$18 million international joint research effort between ETHZ in Switzerland, UNC in USA and NTU in Singapore
 - Development of 2D/3D image and video processing tools in the context of 3D telepresence
 - Supervision of bachelor, master and PhD students
- Adjunct Lecturer at ETH Zurich**

09/2010-04/2011 **Postdoctoral fellow at Computer Vision Lab, University of Tokyo, Japan**
Collaborator: Professor Katsushi Ikeuchi
Topic: 3D reconstruction, omnidirectional vision and global optimization in the context of e-Heritage applications

- Omnidirectional video stabilization and virtual view synthesis
- Registration of 3D range data for large scale 3D merging

09/2006-08/2010 **Graduate student researcher at RCV Lab, KAIST, South Korea**

- Omnidirectional vision: calibration, motion estimation, 3D reconstruction, virtual view synthesis
- Robust estimation and global optimization
- Supervision of internship students

Teaching

Lecturer of the course “Mathematical Foundations of Computer Graphics and Vision” at ETH Zurich, with Dr. Cengiz Öztireli (2015), Dr. Luca Ballan (2014), and Dr. Luca Ballan and Dr. Tiberiu Popa (2013).

Teaching assistant for the lectures “robot vision” and “computer vision” by Prof. Inso Kweon (Fall 2006, 2007, 2008, 2009), KAIST, South Korea.

Projects and collaborations

09/2011-07/2014 **Being There Centre**
Collaboration: ETHZ in Switzerland (Prof. Markus Gross and Marc Pollefeys), UNC in USA (Prof. Henry Fuchs), NTU in Singapore (Prof. Nadia Magnenat-Thalmann)
Position: researcher

09/2011-12/2013 **DrAACaR (Driver Assistance by Asynchronous Camera Ring), NRF-ANR**
Collaboration: RCVLab, KAIST, South Korea (Prof. Inso Kweon), USRG, KAIST, South Korea (Prof. Hyunchul Shim), LITIS, Université de Rouen (Prof. Pascal Vasseur), Le2i, Université de Bourgogne (Prof. Cédric Demonceaux)

04/2008-01/2010 **French/Korean EGIDE Integrated Action Program NOVA/STAR.**
Collaboration: Prof. Inso Kweon (KAIST, Korea), Pascal Vasseur (UPJV, France) and Cédric Demonceaux (UPJV, France)
Position: researcher and scientific coordinator (Korean side) for omnidirectional vision-based autonomous vehicles.

04/2008-2009 **CaViAR ANR project: Catadioptric Vision for Aerial Robots.**
Collaboration: Pascal Vasseur (UPJV, France), Peter Sturm (INRIA Rhones Alpes), Patrick Rives (INRIA Sophia Antipolis), Simon Lacroix (LAAS, CNRS Toulouse) and David Fofi (LE2I, University of Bourgogne)
Position: researcher.

List of co-authors (in alphabetic order, see publication list): Atsuhiko Banno, Thabo Beeler, Derek Bradley, Jianfei Cai, Kyung-Ho Choi, Soonkee Chung, Teng Deng, Cédric Demonceaux, Jakub Fiser, Friedrich Fraundorfer, Henry Fuchs, Craig Gotsman, Richard Hartley, Adrian Hilton, Markus Gross, Katsushi Ikeuchi, Ondrej Jamriska, Mostafa Kamali, Changil Kim, Hyeongwoo Kim, Seong-Baek Kim, Claudia Kuster, Inso Kweon, Pierre-Yves Laffont, Marcel Lancelle, Hyung-Keun Lee, Hongdong Li, Michal Lukac, Charles Malleson, Tobias Martin, Tae-Hyun Oh, Cengiz Öztireli, Sang-Young Park, Quang Pham, Marc Pollefeys, Tiberiu Popa, Nicola Ranieri, Roger Blanco Ribera, Alexandre Richard, Olivier Saurer, Yongduek Seo, Alexander Sorkine-Hornung, Andrei State, Daniel Sykora, Yu-Wing Tai, Pascal Vasseur, Oliver Wang, Emily Whiting, Simon Wenner, Kuk-Jin Yoon, Henning Zimmer

Research stays and internships

- 02/2012~07/2012 **Research stay at IMI, NTU, Singapore**
Topic: telepresence technologies
Collaboration: Prof. Nadia Magnenat-Thalmann and Prof. Tat Jen Cham
- 07/2009 **Internship (Brain Korea 21) at ASL, ETH Zurich, Switzerland.**
Topic: car trajectory estimation in complex urban environments.
Collaboration: Davide Scaramuzza and Prof. Roland Siegwart
- 02/2006-07/2006 **Master thesis at RCV Lab, KAIST - South Korea.**
Topic: Attitude estimation of unmanned aerial vehicle by catadioptric vision.
Advisor: Prof. Inso Kweon (KAIST, Korea) and Isabelle Fantoni (UTC, France)
- 02/2005-07/2005 **Internship at Virtual Reality Lab, KAIST - South Korea.**
Topic: Development of an interactive augmented-reality system applied to urban planning based on ARToolkit.
Advisor: Prof. Kwangyun Wohn

Reviewer

Reviewer for:

- International conferences:
 - ACM SIGGRAPH
 - Eurographics
 - IEEE Conference on Computer Vision and Pattern Recognition (CVPR)
 - European Conference on Computer Vision (ECCV)
 - International Conference on Computer Vision (ICCV)
 - Eurographics Symposium on Rendering (EGSR)
 - IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)
 - IEEE International Conference on Robotics and Automation (ICRA)
 - International Conference on Pattern Recognition (ICPR)
 - International Conference on Energy Minimization Methods in Computer Vision and Pattern Recognition (EMMCVPR)
 - IEEE Intelligent Vehicles Symposium (IV)
 - International Conference on 3D Imaging, Modeling, Processing, Visualization, and Transmission (3DIMPVT)

- International journals:
 - IEEE Transactions on Pattern Analysis and Machine Intelligence (TPAMI)
 - International Journal of Computer Vision (IJCV)
 - IEEE Transactions on Robotics
 - IEEE Multimedia
 - The Visual Computer
 - Elsevier Pattern Recognition (PR)
 - Elsevier Pattern Recognition Letters (PRL)
 - IEEE Robotics and Automation Magazine
 - Machine Vision and Applications (MVA)
 - Elsevier Computers & Graphics
 - IEEE Signal Processing Letters
 - Springer Intelligent Service Robotics
 - EURASIP Journal on Image and Video Processing (JIVP)
 - Elsevier Robotics and Autonomous Systems (RAS)
 - Elsevier Aerospace Science and Technology (AST)
 - SPIE Journal of Electronic Imaging (JEI)
 - MDPI Sensors
 - Computers in Industry

Publications – book/chapter

- [1] “[Interactive Omnidirectional Indoor Tour](#)”, **Jean-Charles Bazin**, Olivier Saurer, Friedrich Fraundorfer and Marc Pollefeys, chapter in the book “Emerging Technologies for 3D Video”, edited by Frédéric Dufaux, Béatrice Pesquet-Popescu and Marco Cagnazzo, June 2013, ISBN 978-1118355114.
- [2] “[Catadioptric Vision for Robotic Applications](#)”, **Jean-Charles Bazin** and Inso Kweon, *Lambert Academic Publishing*, January 2011, 192 pages, ISBN 978-3843379298.

Publications – international journal

- [3] “[Sampling Based Scene-Space Video Processing](#)”, by Felix Klose, Oliver Wang, **Jean-Charles Bazin**, Marcus Magnor and Alexander Sorkine-Hornung, *ACM Transaction on Graphics (TOG issue of SIGGRAPH)*, August 2015.
- [4] “[Partial Sum Minimization of Singular Values in Robust PCA: Algorithm and Applications](#)”, by Tae-Hyun Oh, Hyeonwoo Kim, Yu-Wing Tai, Jean-Charles Bazin, and In So Kweon, *IEEE Transactions on Pattern Analysis and Machine Intelligence (TPAMI)*, accepted June 2015.
- [5] “[Spatio-Temporal Geometry Fusion for Multiple Hybrid Cameras using Moving Least Squares Surfaces](#)”, by Claudia Kuster, **Jean-Charles Bazin**, Cengiz Öztireli, Teng Deng, Tobias Martin, Tiberiu Popa and Markus Gross, *Computer Graphics Forum (issue of Eurographics)*, 2014.
- [6] “[Immersive 3D Telepresence](#)”, by Henry Fuchs, Andrei State, **Jean-Charles Bazin**, *IEEE Computer*, July 2014.
- [7] “[Painting by Feature: Texture Boundaries for Example-based Image Creation](#)”, Michal Lukac, Jakub Fiser, **Jean-Charles Bazin**, Ondrej Jamriska, Alexander Sorkine-Hornung, Daniel Sykora, *ACM Transaction on Graphics (TOG issue of SIGGRAPH)*, 2013.
- [8] “[Scalable Music: Automatic Music Retargeting and Synthesis](#)”, by Simon Wenner, **Jean-Charles Bazin**, Changil Kim, Alexander Hornung and Markus Gross, *Computer Graphics Forum (issue of Eurographics)*, 2013.
- [9] “[A Branch and Bound Approach to Correspondence and Grouping Problems](#)”, **Jean-Charles Bazin**, Hongdong Li, Inso Kweon, Cedric Demonceaux, Pascal Vasseur and Katsushi Ikeuchi, *IEEE Transactions on Pattern Analysis and Machine Intelligence (TPAMI)*, accepted December 2012, published July 2013.
- [10] “[Gaze Correction for Home Video Conferencing](#)”, Claudia Kuster, Tiberiu Popa, **Jean-Charles Bazin**, Craig Gotsman and Markus Gross, *ACM Transaction on Graphics (TOG issue of SIGGRAPH Asia)*, 2012.
- [11] “[Rotation Estimation and Vanishing Point Extraction by Omnidirectional Vision in Urban Environment](#)”, **Jean-Charles Bazin**, Cédric Demonceaux, Pascal Vasseur and Inso Kweon, *International Journal of Robotics Research (IJRR)*, accepted August 2011, published January 2012.
- [12] “[Ground Vehicle Navigation in Harsh Urban Conditions by Integrating Inertial Navigation System, Global Positioning System, Odometer and Vision Data](#)”, Seong-Baek Kim, **Jean-Charles Bazin**, Hyung-Keun Lee, Kyung-Ho Choi and Sang-Young Park, *IET Radar, Sonar & Navigation (IET-RSN)*, published October 2011.
- [13] “[Motion Estimation by Decoupling Rotation and Translation in Catadioptric Vision](#)”, **Jean-Charles Bazin**, Cédric Demonceaux, Pascal Vasseur and Inso Kweon, *Computer Vision and Image Understanding (CVIU)*, Volume 114, Issue 2, Pages 254-273, accepted May 2009, published February 2010.

Publications – domestic journal

- [14] “Mixing Collaborative and Hybrid Vision Devices for Robotic Applications”, **Jean-Charles Bazin**, Sung-Heum Kim, Dong-Geol Choi, Joon-Young Lee and Inso Kweon, *Journal of Korea Robotics Society (KROS)*, 2011.
In Korean: “로봇 응용을 위한 협력 및 결합 비전 시스템”, Jean-Charles Bazin, 김성흠, 최동걸, 이준영, 권인소, 로봇공학회 논문지, 2011.
- [15] “Catadioptric Sensor and Applications for Mobile Robots”, Jungho Kim, Chaehoon Park, **Jean-Charles Bazin**, Gijeong Jang and Inso Kweon, *Journal of Korea Robotics Society (KROS)*, vol.4, No.1, 2007.
In Korean: “이동로봇을 위한 전방향 시각센서와 응용”, 김정호, 박채훈, Jean-Charles Bazin, 장기정, 권인소, 로봇공학회 논문지, vol.4, No.1, 2007.

Publications – international conference proceedings (selected)

- [16] “FaceDirector: Continuous Control of Facial Performance in Video”, by **Jean-Charles Bazin***, Charles Malleson*, Oliver Wang, Thabo Beeler, Derek Bradley, Adrian Hilton and Alexander Sorkine-Hornung, *International Conference on Computer Vision (ICCV)*, Santiago, Chile, October 2015. (* denotes joint first authorship)
- [17] “Intrinsic decomposition of image sequences from local temporal variations”, by Pierre-Yves Laffont and **Jean-Charles Bazin**, *International Conference on Computer Vision (ICCV)*, Santiago, Chile, December 2015.
- [18] “Efficient GPU Based Sampling for Scene-Space Video Processing”, by Felix Klose, Oliver Wang, **Jean-Charles Bazin**, Marcus Magnor and Alexander Sorkine-Hornung, *International Symposium on Vision, Modeling and Visualization (VMV)*, Aachen, Germany, October 2015.
- [19] “Globally Optimal Inlier Set Maximization With Unknown Rotation and Focal Length”, **Jean-Charles Bazin**, Yongduek Seo, Richard Hartley and Marc Pollefeys, *European Conference on Computer Vision (ECCV) (oral presentation, 2.8% acceptance rate)*, Zurich, Switzerland, September 2014.
- [20] “A Graph-based Approach for Discovery of Stable Deconstruction Sequences”, Lukas Beyeler, **Jean-Charles Bazin** and Emily Whiting, *Advances in Architectural Geometry (AAG)*, London, England, September 2014.
- [21] “Registration of multiple RGBD cameras via local rigid transformations”, Deng Teng, **Jean-Charles Bazin**, Tobias Martin, Claudia Kuster, Jianfei Cai, Tiberiu Popa and Markus Gross, *IEEE International Conference on Multimedia and Expo (ICME)*, Chengdu, China, July 2014.
- [22] “Gaze Correction with a Single Webcam”, Dominik Giger, **Jean-Charles Bazin**, Claudia Kuster, Tiberiu Popa and Markus Gross, *IEEE International Conference on Multimedia and Expo (ICME)*, Chengdu, China, July 2014.
- [23] “Partial Sum Minimization of Singular Values in RPCA for Low-Level Vision”, Tae-Hyun Oh, Hyeongwoo Kim, Yu-Wing Tai, **Jean-Charles Bazin**, and Inso Kweon, *International Conference on Computer Vision (ICCV)*, Sidney, Australia, 2013.
- [24] “Globally Optimal Consensus Set Maximization Through Rotation Search”, **Jean-Charles Bazin**, Yongduek Seo and Marc Pollefeys, *Asian Conference on Computer Vision (ACCV) (oral presentation, 3.6% acceptance rate)*, Daejeon, South Korea, 2012.
- [25] “Towards Next-Generation 3D Teleconferencing Systems”, Claudia Kuster, Nicola Ranieri, Agustina, Henning Zimmer, **Jean-Charles Bazin**, Tiberiu Popa and Markus Gross, *Special Session on "Telepresence" 3DTV Conference (3DTV-CON)*, Zurich, 2012.

- [26] “3-line RANSAC for Orthogonal Vanishing Point Detection”, **Jean-Charles Bazin** and Marc Pollefeys, *IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)*, Vilamoura, Portugal, 2012.
- [27] “Globally Optimal Line Clustering and Vanishing Point Estimation in Manhattan World”, **Jean-Charles Bazin**, Yongduek Seo, Cédric Demonceaux, Pascal Vasseur, Katsushi Ikeuchi, Inso Kweon and Marc Pollefeys, *IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, Providence, USA, 2012.
- [28] “Around the World in 80 Seconds”, **Jean-Charles Bazin**, Alexandre Richard, Yu-Wing Tai and Inso Kweon, *SIGGRAPH-Asia (poster session)*, Hong-Kong, 2011.
- [29] “2D/3D Virtual Face Modeling”, Soonkee Chung, **Jean-Charles Bazin** and Inso Kweon, *IEEE International Conference on Image Processing (ICIP)*, Brussels, Belgium, 2011.
- [30] “Stabilizing Omnidirectional Videos Using 3D Structure and Spherical Image Warping”, Mostafa Kamali, Atsuhiko Banno, **Jean-Charles Bazin**, Inso Kweon and Katsushi Ikeuchi, *IAPR Conference on Machine Vision Applications (MVA)*, Nara, Japan, 2011, **MVA best paper award nominee**.
- [31] “An Original Approach For Automatic Plane Extraction By Omnidirectional Vision”, **Jean-Charles Bazin**, Pierre-Yves Laffont, Inso Kweon, Cédric Demonceaux and Pascal Vasseur, *IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)*, Taipei, Taiwan, 2010.
- [32] “Virtual Face Sculpting”, **Jean-Charles Bazin**, Soonkee Chung, Roger Blanco Ribera, Quang Pham and Inso Kweon, *SIGGRAPH (poster session)*, Los Angeles, USA, 2010.
- [33] “Automatic Method for Closed Eye Correction”, **Jean-Charles Bazin**, Dang-Quang Pham, Inso Kweon, Kuk-Jin Yoon, *IEEE International Conference on Image Processing (ICIP)*, Cairo, Egypt, 2009.
- [34] “Particle Filter Approach Adapted to Catadioptric Images for Target Tracking Application”, **Jean-Charles Bazin**, Inso Kweon, Cédric Demonceaux and Pascal Vasseur, *British Machine Vision Conference (BMVC)*, London, UK, 2009.
- [35] “Dynamic Programming and Skyline Extraction in Catadioptric Infrared Images”, **Jean-Charles Bazin**, Inso Kweon, Cédric Demonceaux and Pascal Vasseur, *IEEE International Conference on Robotics and Automation (ICRA)*, Kobe, Japan, 2009.
- [36] “Improvement of Feature Matching in Catadioptric Images Using Gyroscope Data”, **Jean-Charles Bazin**, Inso Kweon, Cédric Demonceaux and Pascal Vasseur, *International Conference on Pattern Recognition (ICPR)*, Tampa, Florida, 2008.
- [37] “Spherical Region-Based Matching of Vanishing Points in Catadioptric Images”, **Jean-Charles Bazin**, Inso Kweon, Cédric Demonceaux and Pascal Vasseur, *8th Workshop on Omnidirectional Vision, Camera Networks and Non-Classical Cameras (OMNIVIS) in conjunction with ECCV*, Marseille, France, 2008.
- [38] “A Robust Top-Down Approach for Rotation Estimation and Vanishing Points Extraction by Catadioptric Vision In Urban Environment”, **Jean-Charles Bazin**, Inso Kweon, Cédric Demonceaux and Pascal Vasseur, *IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)*, Nice, France, 2008.
- [39] “UAV Attitude Estimation by Vanishing Points in Catadioptric Images”, **Jean-Charles Bazin**, Inso Kweon, Cédric Demonceaux and Pascal Vasseur, *IEEE International Conference on Robotics and Automation (ICRA)*, Pasadena, California, 2008.
- [40] “Rectangle Extraction in Catadioptric Images”, **Jean-Charles Bazin**, Inso Kweon, Cédric Demonceaux and Pascal Vasseur, *7th Workshop on Omnidirectional Vision, Camera Networks and Non-Classical Cameras (OMNIVIS) in conjunction with ICCV’07*, Rio de Janeiro, Brazil, 2007.
- [41] “Fast Central Catadioptric Line Extraction”, **Jean-Charles Bazin**, Cédric Demonceaux and Pascal Vasseur, *In Proc. of 3rd Iberian Conference on Pattern Recognition and Image Analysis (IbPRIA)*, volume 4478 of *Lecture Notes in Computer Science*, Girona, Spain, 2007

Supervision

The following list contains the interns and master students I had the opportunity to supervise:

- Christopher Schroers, PhD student from Saarland University, intern at Disney Research Zurich
Period: Fall 2015. *Topic:* Omnidirectional vision. *Co-supervised with:* Dr. Alexander Sorkine-Hornung
- Matthias Solèr, master thesis at ETHZ- Disney Research Zurich, Switzerland
Period: Fall 2015. *Topic:* audio-video processing. *Co-supervised with:* Prof. Andreas Krause and Dr. Alexander Sorkine-Hornung
- Charles Malleson, PhD student from University of Surrey (UK), intern at Disney Research Zurich
Period: Fall 2014. *Topic:* Synchronization and blending of facial performance videos. *Co-supervised with:* Dr. Alexander Sorkine-Hornung
- Rudolf Schreier, master thesis at ETHZ, Switzerland
Period: Fall 2013. *Topic:* Augmented reality on transparent screen
- Lukas Beyeler, master thesis at ETHZ, Switzerland
Period: Fall 2013. *Topic:* Object pile analysis. *Co-supervised with:* Dr. Emily Whiting
- Cecilia Garcia, bachelor student at ETHZ, Switzerland
Period: Fall 2013. *Topic:* Holidays pictures on mobile phones. *Co-supervised with:* Dr. Marcel Lancelle
- Dominik Giger, master thesis at ETHZ, Switzerland
Period: Spring 2013. *Topic:* Gaze correction. *Co-supervised with:* Dr. Tiberiu Popa
- Marcel Lüdi, bachelor student at ETHZ, Switzerland
Period: Spring 2013. *Topic:* Lyrics editing. *Co-supervised with:* Dr. Alexander Sorkine-Hornung
- Christian Schulz, master thesis at ETHZ, Switzerland
Period: Spring 2012. *Topic:* Dance project. *Co-supervised with:* Dr. Tiberiu Popa and Alec Jacobson
- Jan Marti, undergraduate student at ETHZ, Switzerland
Period: Spring 2012. *Topic:* Background subtraction. *Co-supervised with:* Dr. Henning Zimmer
- Simon Wenner, master thesis at ETHZ, Switzerland
Period: Fall 2011. *Topic:* Music retargeting. *Co-supervised with:* Dr. Alexander Sorkine-Hornung
- Vittorio Megaro, bachelor student at ETHZ, Switzerland
Period: Fall 2011. *Topic:* Multi-Kinect system
- Alexandre Richard, master student at UTC, France
Period: Spring 2011. *Topic:* Inpainting and Internet-based Computer Vision
- Quang Pham, master student at UTC, France
Period: Spring 2009. *Topic:* 2D/3D face editing
- Pierre-Yves Laffont, master student at INSA Lyon, France
Period: Fall 2008. *Topic:* Motion estimation by catadioptric vision
- Guillaume Chomienne, master student at ESIAL, France
Period: Summer 2008. *Topic:* Development of an interface for robot control and motion estimation
- SangWon Lee, undergraduate student at KAIST, South Korea
Period: Fall 2007. *Topic:* Visual odometry using catadioptric images and planar 3D reconstruction

Software/toolbox

- **OmniToolbox v4.1: Matlab toolbox dedicated to omnidirectional vision**
 - Over 1500 files, last update: November 2013
 - Functionalities:
 - Panoramic stitching and virtual views
 - Line extraction
 - Vanishing point detection and rotation estimation
 - Visual odometry, structure from motion and 3D reconstruction
 - Object tracking
 - Associated to the book "Catadioptric Vision for Robotic Applications" published in February 2011
- **Catadioptric camera-gyroscope calibration for Matlab**
 - Associated to our CVIU 2010 paper
 - Developed in collaboration with Professors Inso Kweon, Cédric Demonceaux and Pascal Vasseur

Awards and honors

- Top5 of the most promising **ETH innovations of the year** (2013) for our work on “gaze correction for home video-conferencing”
- Silver prize at the prestigious 2011 **Samsung Human-Tech competition** (out of about 1300 papers) for the work on “rotation estimation by omnidirectional vision” with a US\$5000 prize money. This competition aims “*to search for creative and driven young people who will lead the field of science into the future for Korea*”
- “Honorable Jang Lyeo Sang Prize” at **Samsung Techwin** 2010 for the work on “object tracking in omnidirectional images”
- “Outstanding PhD research award” at KAIST for my 2nd and 3rd years of PhD (2008, 2009)
- Award of 6000 Euros from the **French Ministry of Education** based on the academic merit (master course), 2006

IT skills

Languages: Matlab, C/C++

Libraries: OpenCV, OpenGL, ARToolkit, SVM, ANN lib

Software: Matlab, Visual.net, MeshLab

Language

French: Native speaker

Korean: Advanced (lived 7 years in South Korea)

English: Fluent

German: Intermediate (lived 3 years in Zurich)

Personal experiences

Sports:

- Judo: 11 years, black belt, judo trainer at UTC
- Rugby: 7 years, Korea national champion in 2008
- Hiking: Mont Blanc (4809m), Korea’s top 20 mountains,

Others: - Experience new cultures: lived and worked in seven countries (France, United Kingdom, USA, South Korea, Japan, Switzerland and Singapore)