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EDUCATION

Postdoctoral Scholar, Radiation Oncology, Stanford University, USA　　　**(May. 13 ~ Apr. 14)**
- Deformable surface registration for patient setup in radiotherapy (Advisor: Lei Xing)

Ph.D., Mechanical & Aerospace Engineering, **Seoul National University, Korea**　**(Mar. 05 ~ Aug. 09)**
- 3D postoperative analysis of total knee arthroplasty using 2D-3D medical image registration (Advisor: Prof. Kunwoo Lee)

M.S., Mechanical & Aerospace Engineering, Seoul National University, Korea　**(Mar. 01 ~ Feb. 03)**

B.S., Mechanical & Aerospace Engineering, Seoul National University, Korea　**(Mar. 97 ~ Feb. 01)**

RELEVANT PROFESSIONAL EXPERIENCE

Korea Institute of Science and Technology, Seoul, Korea

Principal Researcher at Center for Bionics　　　　　　　　　　　　　**(Mar. 18 ~ present)**

Senior Researcher at Center for Bionics　　　　　　　　　　　　　　**(Sep. 11 ~ Feg. 18)**

Star Postdoctoral Researcher at Intelligence and Interaction Center　　　**(Oct. 09 ~ Aug. 11)**

University of Science and Technology, KIST School, Seoul, Korea

Associate Professor at Division of Bio-Medical Science & Technology　　**(Mar. 12 ~ present)**

K&I Technology Co., Ltd, Seoul, Korea　　　　　　　　　　　　　**(Mar. 03 ~ Aug. 09)**

Chief Researcher at K&I Research Center
　　Technical environment: C++, MFC, OpenGL, OpenCV, VTK, ITK, CUDA, etc.

PROFESSIONAL MEMBERSHIP

Committee Member, **Korean Society for Artificial Intelligence in Medicine**　**(Oct. 18 ~ present)**

Committee Member, **Korean Society for Computer Design and Engineering**　**(Jan. 16 ~ present)**

Committee Member, **Korean Society of Imaging Informatics in Medicine**　**(Jan. 16 ~ present)**

Committee Member, **Korean Society for Simulation Surgery**　　　　　　**(Jan. 15 ~ present)**

AWARD

1. Minister's Commendation, Ministry of Science and ICT, Dec. 28, 2018
2. Korea Top 100 Excellent Research and Technology Achievement Award in 2018, Ministry of Science and ICT, Oct. 10, 2018
3. Best Presentation Award, "Rotator cuff tear 3D visualization using deep learning", Korea Society of

Imaging Informatics in Medicine, Jul. 14, 2018

4. Excellent Researcher Award, Awarded by *National Research Council of Science and Technology*, Feb. 9, 2018

5. KIST Best Researcher of the Month (Prize money: $3,000), Sep. 29, 2017

6. Academic Excellence Award, "Serial changes in 3-dimensional supraspinatus muscle volume following rotator cuff repair", The 30th Conference on Korean Orthopaedic Society for Sports Medicine, Sep. 23, 2017

7. Best Poster Award, "Web-based cooperation system for 3D surgical planning", 2017 Summer Conference, Society for Computational Design and Engineering, Aug. 18, 2017

8. Best Paper Award, "Deep reinforcement learning for calibration of 2D-3D registration", Asian Conference on Design and Digital Engineering 2017, Aug. 27, 2017

9. Excellent Research Team Award (Medical IT Team, PI: Laehyun Kim), Awarded by the President of KIST, Feb. 2017

10. Grand Prize, "3D surgical planning software for maxillofacial reconstruction", The 17th Computational Design and Engineering (CDE) Software Contest, Aug. 2016 (Awarded by *Minister of Science, ICT and Future Planning*)

11. Best Paper Award, "Optimal placement of medical robotic system using genetic algorithms", The 1st International Joint Conference on Convergence, Feb. 2015

12. Student Paper Award (Student: Kinde Mekuria, PI: Youngjun Kim), "Surgical navigation system for anterior cruciate ligament reconstruction", International Biomedical Engineering Conference 2014, Nov. 2014

13. Young Scientist Award, The 2013 Annual Conference of the Society of CAD/CAM Engineers, Jan. 2013

14. Best Paper Award, "Development of cholecystectomy simulation for laparoscopic surgery training", The 2012 Annual Conference of the Society of CAD/CAM Engineers, Feb. 2012

15. Encouragement Prize, The 18th Software Contest of Korea, sponsored by Ministry of Communication and Information, 2006

16. Grand Prize, The 5th CAD/CAM Software Contest of Korea, sponsored by Ministry of Communication and Information, 2002

17. Seoul National University Academic Scholarship, 1998-2000

PUBLICATION

Journal Article

1. Jeonghwan Lee, Kinde Mekuria, Tea-geun Son, Woo Shik Jeong, Jong Woo Choi, **Youngjun Kim**, "A novel non-invasive patient-specific navigation method for orbital reconstructive surgery: a phantom study using patient data", *Plastic and Reconstructive Surgery*, (Accepted)

2. Seok Won Chung, Seung Seog Han, Ji Whan Lee, Kyung-Soo Oh, Na Ra Kim, Jong Pil Yoon, Joon Yub Kim, Sung Hoon Moon, Jieun Kwon, Hyo-Jin Lee, Young-Min Noh, **Youngjun Kim**, "Automated detection and classification of the proximal humerus fracture by using deep learning algorithm", *Acta Orthopaedica*, Vol. 89, No. 4, pp.468-473, Aug. 2018

3. Hyung Hwa Jeong, Woo Shik Jeong, Jong Woo Choi, Seung Eun Jeong, Soon Yuhl Nam, Seung Ho Choi, Yoon Sei Lee, Hyeun A Kim, **Youngjun Kim**, "3D computer simulation analysis of the flap volume change in total tongue reconstruction flaps", *Journal of Cranio-Maxillofacial Surgery,* Vol. 46, No. 5, pp. 844-850, Mar. 2018 [Epub ahead of print]

4. Eungjune Shim, **Youngjun Kim**, Deukhee Lee, Byung Hoon Lee, Sungkyung Woo, Kunwoo Lee,

"2D-3D registration for 3D analysis of lower limb", *Applied Mathematics A Journal of Chinese Universities*, Vol.33, No.1, pp. 59-70, Mar. 2018

5. Ki-Mo Jang, Jong-Hoon Park, Minho Chang, **Youngjun Kim**, Deukhee Lee, Sehyung Park, and Joon Ho Wang, "Three-Dimensional Evaluation of Similarity of Right and Left Knee Joints", *Knee Surgery & Related Research*, Vol.29, No. 4, pp. 307-315, Dec. 2017

6. Yimdon Choi[*], **Youngjun Kim**[*], Eunsoo Park, "Patient-Specific Augmentation Rhinoplasty Using a Three-Dimensional Simulation Program and Three-Dimensional Printing", *Aesthetic Surgery Journal*, [*]*These authors contributed equally to this work,* Vol.37, No. 9, pp. 988-998, Oct. 2017

7. Jerome Charton, Mathieu Laurentjoye, **Youngjun Kim**, "3D Boolean operations in virtual surgical planning", *International Journal of Computer Assisted Radiology and Surgery*, Vol. 12, No. 10, pp. 1697-1709, Oct. 2017

8. Jerome Charton, Laehyun Kim, **Youngjun Kim**, "Boolean operations between two colliding shells: a robust, exact, and simple method", *Journal of Advanced Mechanical Design, Systems, and Manufacturing*, Vol. 11, No. 4, p.JAMDSM0041, Sep. 2017

9. Siyeop Yoon, Sangkyun Shin, Hyunchul Cho, **Youngjun Kim**, Deukhee Lee, Laehyun Kim, Gunwoo Noh, "Enhanced markerless surgical robotic guidance system for keyhole neurosurgery", *Journal of Advanced Mechanical Design, Systems, and Manufacturing*, Vol. 11, No. 4, p.JAMDSM0046, Sep. 2017

10. Seok Won Chung, Kyung-Soo Oh, Sung Gyu Moon, Na Ra Kim, Ji Whan Lee, Eungjune Shim, Sehyung Park, **Youngjun Kim**, "Serial Changes in 3-Dimensional Supraspinatus Muscle Volume following Rotator Cuff Repair", *The American Journal of Sports Medicine*, Vol. 45, No. 10, pp. 2345-2354, Aug. 2017

11. Ho Dong Yu, Jin-Young Park, Jae Hyung Lee, Kyung Soo Oh, Seok Won Chung, Hyunchul Cho, **Youngjun Kim**, "Three-dimensional analysis of scapular kinematics during arm elevation in baseball players with scapular dyskinesis: Comparison of dominant and non-dominant arms", *Asia-Pacific Journal of Sports Medicine, Arthroscopy, Rehabilitation and Technology*, Vol. 9, pp. 115-116, Jul. 2017

12. Gayoung Kim, Eungjune Shim, **Youngjun Kim**[*], Yong Oock Kim[*], "Virtual Reality and 3D Printing for Craniopagus Surgery", *Journal of International Society for Simulation Surgery*, Vol. 4, No. 1, pp. 9-12, Jun. 2017

13. **Youngjun Kim**, Hannah Kim, Yong Oock Kim, "Virtual Reality and Augmented Reality in Plastic Surgery: A Review", *Archives of Plastic Surgery*, Vol. 44, No. 3, pp. 179-187, May 2017

14. Sunhee Kim, Deukhee Lee, Sehyung Park, Kyung-Soo Oh, Seok Won Chung, **Youngjun Kim**, "Automatic segmentation of supraspinatus from MRI by internal shape fitting and autocorrection", *Computer Methods and Programs in Biomedicine*, Vol. 140, pp. 165-174, Mar. 2017

15. **Youngjun Kim**, Byung Hoon Lee, Kinde Mekuria, Hyungchul Cho, Sehyung Park, Joon Ho Wang, Deukhee Lee, "Registration accuracy enhancement of a surgical navigation system for anterior cruciate ligament reconstruction: A phantom and cadaveric study", *The Knee*, Vol.24, No. 2, pp. 329-339, Feb. 2017

16. Chang Kyu Lee, **Youngjun Kim**, Nam Lee, Byungwoo Kim, Do Young Kim, Seong Yi, "Feasibility study of utilization of action camera, GoPro Hero 4, Google glass and Panasonic HX-A100 in Spine surgery", *Spine*, Vol. 42, No. 4, pp. 275-280, Feb. 2017

17. Quoc Cuong Nguyen, **Youngjun Kim**, HyukDong Kwon, "Optimization of layout and path planning of surgical robotic system", *International Journal of Control, Automation and Systems*, Vol. 15, No. 1, pp. 375-384, Jan. 2017

18. Quoc Cuong Nguyen[*], **Youngjun Kim**[*], Sehyung Park, HyukDong Kwon, "End-effector path planning and collision avoidance for robot-assisted surgical system", *International Journal of*

Precision Engineering and Manufacturing, *These authors contributed equally to this work, Vol. 17, No. 12, pp. 1703-1709, Dec. 2016

19. Byung Hoon Lee, Dong Ho Kum, Im Joo Rhyu, **Youngjun Kim**, Hyunchul Cho, Joon Ho Wang, "Clinical advantages of image‑free navigation system using surface‑based registration in anatomical anterior cruciate ligament reconstruction", *Knee Surgery, Sports Traumatology, Arthroscopy*, Vol. 24, No. 11, pp. 3556-3564, Nov. 2016

20. Jai Gon Seo*, Sang Min Kim, Jung Min Shin, **Youngjun Kim***, Byung Hoon Lee, "Safety of simultaneous bilateral total knee arthroplasty using an extramedullary referencing system: results from 2098 consecutive patients", *Archives of Orthopaedic and Trauma Surgery*, *These authors contributed equally to this work, Vol. 136, No. 11, pp. 1615-1621, Nov. 2016

21. **Youngjun Kim**, Yong Hum Na, Lei Xing, Rena Lee, Sehyung Park, "Automatic deformable surface registration for medical applications by radial basis function-based robust point-matching", *Computers in Biology and Medicine*, Vol. 77, No. 1, pp. 173-181, Oct. 2016

22. Sin Hyung Park, Sang Won Moon, Byung Hoon Lee, Sehyung Park, **Youngjun Kim**, Deukhee Lee, Sunghwan Lim, Joon Ho Wang, "Arthroscopically blind anatomical anterior cruciate ligament reconstruction using only navigation guidance: a cadaveric study", *The Knee*, Vol. 23, No. 5, Oct. 2016

23. **Youngjun Kim**, Wontae Kim, Deukhee Lee, "3D Inspection by Registration of CT and Dual X-ray Images", *Journal of International Society for Simulation Surgery*, Vol. 3, No. 1, pp. 16-21, Jun. 2016

24. Jong Pil Yoon, Seok Won Chung, Ju-Eun Kim, Hyung Sup Kim, Hyun-Joo Lee, Won-Ju Jeong, Kyung-Soo Oh, Dong-Oh Lee, Anna Seo, **Youngjun Kim**, "Intra-articular injection, subacromial injection, and hydrodilatation for primary frozen shoulder: a randomized clinical trial", *Journal of Shoulder and Elbow Surgery*, Vol. 25, No. 3, pp. 376-383, Mar. 2016

25. Kinde Mekuria, **Youngjun Kim**, Hyunchul Cho, Deukhee Lee, Sehyung Park, Byung Hoon Lee, Ki-Mo Jang, Joon Ho Wang, "The Effect of Optical Marker Configuration on Tracking Accuracy in Image Guided Surgery″, *Studies in Health Technology and Informatics*, Vol. 220, pp. 227-232, Feb. 2016

26. **Youngjun Kim**, Laehyun Kim, Deukhee Lee, Sangkyun Shin, Hyunchul Cho, Frederick Roy, Sehyung Park, "Deformable mesh simulation for virtual laparoscopic cholecystectomy training", *Visual Computer*, Vol. 31, No. 4, pp. 485-495, Apr. 2015

27. **Youngjun Kim**, Ruijiang Li , Yong Hum Na , Lei Xing, Rena Lee, "Accuracy of surface registration compared to conventional volumetric registration in patient positioning for head-and-neck radiotherapy: a simulation study using patient data", *Medical Physics*, Vol. 41, No. 12, Dec. 2014

28. Sangkyun Shin, **Youngjun Kim**, Hyunchul Cho, Deukhee Lee, Sehyung Park, Laehyun Kim, Gerard Kim, "A single camera tracking system for 3D position, grasper angle, and rolling angle of laparoscopic instruments", *International Journal of Precision Engineering and Manufacturing*, Vol. 15, No. 10, pp. 2155-2160, Oct. 2014

29. Jin hyeok Choi, Seung-Yeob Baek, Tae-geun Son, **Youngjun Kim**, Kunwoo Lee, "Automatic Detection of Inferior Alveolar Nerve Canal from Cone Beam Computed Tomography for Dental Surgery Planning", *Studies in Health Technology and Informatics*, Vol. 196, pp. 61-65, Feb., 2014

30. **Youngjun Kim,** DongJune Chang, Jungsik Kim, Sehyung Park, "Gallbladder removal simulation for laparoscopic surgery training: a hybrid modeling method", *Journal of Computer Science Technology*, Vol. 28, No. 3, pp. 499-507, May 2013

31. Jin hyeok Choi, **Youngjun Kim**, Tae-kyoung Yi, Jekyo Jung, Yong Kim, Sehyung Park, "Optimized Marker for Template-Guided Intraoral Surgery", *Studies in Health Technology and Informatics*, Vol. 184, pp. 85-91, 2013

32. **Youngjun Kim**, Seungbin Lee, Frederick Roy, Deukhee Lee, Laehyun Kim, Sehyung Park, "Carving Mesh with Deformation for Soft Tissue Removal Simulation", *Mesh Processing in Medical Image Analysis, Lecture Notes in Computer Science*, Vol. 7599, pp. 70-79, Oct. 2012

33. **Youngjun Kim,** Wontae Kim, Sehyung Park, Jong-Hyeong Kim, "Calibration method for micro-scale dual X-ray imaging system", *International Journal of Precision Engineering and Manufacturing*, Vol. 13, No. 6, pp. 877-882, Jun. 2012

34. **Youngjun Kim**, Kang-Il Kim, Jin Hyeok Choi, Kunwoo Lee, "Novel methods for 3D postoperative analysis of total knee arthroplasty using 2D–3D image registration", *Clinical Biomechanics*, Vol. 26, No. 4, pp. 384-391, May 2011

35. Sangkyun Shin, **Youngjun Kim**, Hyunsoo Kwak, Deukhee Lee, Sehyung Park, "3-D tracking of surgical instruments using a single camera for laparoscopic surgery simulation", *Studies in Health Technology and Informatics*, Vol. 163, pp. 581-587, Feb. 2011

36. Daekwang Myung, **Youngjun Kim**, Jin hyeok Choi, Kunwoo Lee, "Scaled attenuation fields: improved real-time generation method for digitally reconstructed radiographs", *International Journal of Precision Engineering and Manufacturing*, Vol. 11, No. 5, pp. 791-798, Oct. 2010

37. **Youngjun Kim**, Kunwoo Lee, Wontae Kim, "3D virtual simulator for breast plastic surgery", *Computer Animation and Virtual Worlds*, Vol. 19, Issue 3-4, pp. 515-526, Aug. 2008

38. **Youngjun Kim**, Jungbum Cho, Bohyun Kim, Kunwoo Lee, "Modeling of human head for custom wig production", *Lecture Notes in Computer Science*, Vol. 4561, pp. 874-883, Springer Berlin, Jul. 2007

Book

1. **Youngjun Kim**, Hyunchul Cho, Jin hyeok Choi, "VTK 프로그래밍(VTK programming)", 일진사 (Iljinsa co.), ISBN 978-89-429-1525-5, Sep. 2017

International Conference Paper

1. Taeseok Lee, Yong-Soo Kim, Tae-Geun Son, **Youngjun Kim**, "Development of surgical assistant navigation system using Augmented Reality glasses", *Asian Conference on Design and Digital Engineering,* Okinawa, Japan, Nov., 2018

2. Yong-Soo Kim, EungJune Shim, Taeseok Lee, **Youngjun Kim**, "Development of an augmented reality application for 3D object manipulation", *Asian Conference on Design and Digital Engineering,* Okinawa, Japan, Nov., 2018

3. Seungbin Park, Si-Myung Park, Jeonghwan Lee, Tae-geun Son, Jung-Woo Lee, Minsoo Park, Gunwoo Noh, **Youngjun Kim**, "Automatic bending device for surgical plate", *International Symposium on Precision Engineering and Sustainable Manufacturing (PRESM2018)*, Sapporo, Japan, Jul. 2018

4. Tae-geun Son, Yong-soo Kim, Hyunchul Cho, **Youngjun Kim**, "Development of 3D printing simulation system for web-based 3D printing service platform", *International Symposium on Precision Engineering and Sustainable Manufacturing (PRESM2018)*, Sapporo, Japan, Jul. 2018

5. Seungbin Park, Jeonghwan Lee, Si-Myung Park, Gunwoo Noh, Jung-Woo Lee, Min Soo Park, **Youngjun Kim**, "A Novel Motorized Bending Apparatus for Surgical Plate", *Emerging Technologies in Mechanical Engineering,* Jeju, Korea, Jul., 2018

6. Tae-geun Son, Hannah Kim, Hyunchul Cho, Jung-Woo Lee, **Youngjun Kim**, Sehyung Park, "Evaluation of surgical planning software for mandibular reconstruction using fibular free flap", *International Journal of Computer Assisted Radiology and Surgery 2018*, Barcelona, Spain, Jun.,

2018

7. **Youngjun Kim**, "3D printing for medical application", Tutorial Session, *International Symposium on Computational Design & Engineering 2017*, Ho Chi Minh, Vietnam, Dec. 2017

8. Tae-geun Son, **Youngjun Kim**, "Reassembly of broken objects using surface signatures and its evaluation", *International Symposium on Computational Design & Engineering 2017*, Ho Chi Minh, Vietnam, Dec. 2017

9. EungJune Shim, Hannah Kim, Laehyun Kim, **Youngjun Kim**, "Deep reinforcement learning for calibration of 2D-3D registration", *Asian Conference on Design and Digital Engineering (ACDDE) 2017*, Changsha, China, Aug., 2017

10. **Youngjun Kim**, Hannah Kim, Hyunchul Cho, Jerome Charton, Jung-Woo Lee, Laehyun Kim, "Development of surgical planning software for mandibular reconstruction using fibular flap", *International Journal of Computer Assisted radiology and Surgery 2017*, Barcelona, Spain, Jul., 2017

11. Hannah Kim, **Youngjun Kim**, Hyunchul Cho, Woo Shik Jeong, Jong Woo Choi, Sehyung Park, "Three-dimensional modeling, preoperative diagnosis, and patient specific implant design for orbital wall reconstruction", *International Journal of Computer Assisted Radiology and Surgery 2017*, Barcelona, Spain, Jul., 2017

12. Siyeop Yoon, Jinwon Son, **Youngjun Kim**, Sehyung Park, Deukhee Lee, "A study for non-rigid 2x2D-3D registration of coronary artery images using bifurcation points matching with bi-plane x-ray fluoroscopy", *The 14th International Conference on Ubiquitous Robots and Ambient Intelligence (URAI)*, Jeju, Korea, Jun., 2017

13. **Youngjun Kim**, Hyeun A Kim, Hyunchul Cho, Sunhee Kim, Jerome Charton, Deukhee Lee, Sehyung Park, Woo Shik Jeong, Jong Woo Choi, "3D surgical planning and analysis software for orbital fracture reconstruction", *International Forum on Medical Imaging in Asia (IFMIA) 2017*, Okinawa, Japan, Jan., 2017

14. **Youngjun Kim**, Hyunchul Cho, Hannah Kim, Hyeun A Kim, Jerome Charton, Deukhee Lee, Laehyun Kim, Sehyung Park, Jung-Woo Lee, Jong Woo Choi, "Virtual simulation software for craniomaxillofacial reconstruction surgery", *The 9th Congress of International Society*, Nara, Japan, Dec., 2016

15. EungJun Shim, Sehyung Park, **Youngjun Kim**, Byung Hun Lee, "3-D analysis method of rotation angle difference between ideal and actual anterior-posterior x-ray images of femur in standing posture", *2016 BMES Annual Meeting*, Minneapolis, USA, Oct., 2016

16. Sungkyung Woo, **Youngjun Kim**, Jeonghwan Lee, Kunwoo Lee, "Efficient registration methods between 2D X-ray and 3D CT data of different part of human skeleton", *Asian Conference on Design and Digital Engineering*, Jeju, Korea, Oct. 2016

17. **Youngjun Kim**, Sunhee Kim, Hannah Kim, Hyunchul Cho, Deukhee Lee, Laehyun Kim, Sehyung Park, Jung-Woo Lee, "Automatic segmentation and user-friendly software techniques for virtual surgical planning of mandibular reconstruction", *IEEE Engineering in Medicine and Biology Society*, Orlando, USA, Aug., 2016

18. Si-Myung Park, Deukhee Lee, **Youngjun Kim**, Jung-Woo Lee, Gunwoo Noh, "Stability of the permanently bent plates used in mandibular reconstruction surgery", *IEEE Engineering in Medicine and Biology Society*, Orlando, USA, Aug., 2016

19. **Youngjun Kim**, Sunhee Kim, Hannah Kim, Hyunchul Cho, Deukhee Lee, Laehyun Kim, Sehyung Park, Jung-Woo Lee, "Virtual Surgery Planning and Surgical Guide Design using Automatic Active Contour Segmentation for Maxillofacial Reconstruction Surgery", *International BioMedical Engineering Conference,* Kyungju, Korea, Nov. 2015

20. Sunhee Kim, **Youngjun Kim**, Deukhee Lee, and Sehyung Park, "Active Contour Segmentation Using Level Set Function with Enhanced Image from Prior Intensity", *IEEE Engineering in Medicine and*

Biology Society, Milan, Italy, Aug., 2015

21. Sangkyun Shin, Hyunchul Cho, Siyeop Yoon, Kyusic Park, **Youngjun Kim**, Sehyung Park, Laehyun Kim, Deukhee Lee, "Markerless Surgical Robotic System for Intracerebral Hemorrhage Surgery", *IEEE Engineering in Medicine and Biology Society*, Milan, Italy, Aug., 2015

22. Anna Seo, Sunhee Kim, **Youngjun Kim**, Laehyun Kim, Sehyung Park, Suk Won Jung, "Three-Dimensional Visualization for Surgical Planning of Rotator Cuff Tears", *The Asian Conference on Computer Aided Surgery 2015*, Singapore, Jul., 2015

23. **Youngjun Kim**, Hyunchul Cho, Kinde Mekuria, Deukhee Lee, Sehyung Park, Byung Hoon Lee, Dong Ho Kum, Joon Ho Wang, "Development of a surgical navigation system for Development of a surgical navigation system for anterior cruciate ligament reconstruction", *International Journal of Computer Assisted radiology and Surgery 2015*, Barcelona, Spain, Jun., 2015

24. Quoc Cuong Nguyen, **Youngjun Kim**, HyukDong Kwon, "Optimal placement of medical robotic system using genetic algorithms", *The 1st International Joint Conference on Convergence*, Ho Chi Minh, Vietnam, Feb., 2015

25. Kinde Mekuria, **Youngjun Kim**, Hyunchul Cho, Deukhee Lee, Sehyung Park, Eunsu Lee, Byung Hun Lee, Joon Ho Wang, "Surgical navigation system for anterior cruciate ligament reconstruction", *International Biomedical Engineering Conference 2014*, Gwangju, Korea, Nov., 2014

26. Quoc Cuong Nguyen, **Youngjun Kim**, Sehyung Park, HyukDong Kwon, "Layout optimization of medical robotic system in the operating room", *International Biomedical Engineering Conference 2014*, Gwangju, Korea, Nov., 2014

27. **Youngjun Kim**, Ruijiang Li, Yong Hum Na, Cesare Jenkins, Rena Lee, Lei Xing, "Is surface registration accurate enough for patient setup in head-and-neck radiation therapy?", *American Society of Radiation Therapy's 56th Annual Meeting*, San Francisco, USA, Sep., 2014

28. Yong Hum Na, Daniel Kapp, **Youngjun Kim**, Tae-Suk Suh, Lei Xing, "VMAT Treatment Planning Using Cloud Computing", *American Society of Radiation Therapy's 56th Annual Meeting*, San Francisco, USA, Sep., 2014

29. Sunhee Kim, **Youngjun Kim**, Sehyung Park, Deukhee Lee, "Automatic Segmentation of Leg Bones by Using Active Contours", *IEEE Engineering in Medicine and Biology Society*, Chicago, USA, Aug., 2014

30. Sehyung Park, Young Il Yoon, Frederick Roy, **Youngjun Kim**, "Development of Simulator for Basic Core Training for Arthroscopic Shoulder Surgery", *International Journal of Computer Assisted radiology and Surgery 2014*, Vol. 9, Issue 1, Fukuoka, Japan, Jun., 2014

31. Sung-Hwan Lim, Jin hyeok Choi, **Youngjun Kim**, Deukhee Lee, Sehyung Park, Joon Ho Wang, "Robotic guide system for reducing human alignment error in computer-assisted anterior cruciate ligament reconstruction", *International Journal of Computer Assisted radiology and Surgery 2014*, Vol. 9, Issue 1, Fukuoka, Japan, Jun., 2014

32. Jin hyeok Choi, **Youngjun Kim**, Sung-Hwan Lim, Deukhee Lee, Sehyung Park, Shinhyung Par, Joon Ho Wang, "3D Preoperative Surgical Planning Software for Anterior Cruciate Ligament Reconstruction", *13th International Conference on Control, Automation and Systems*, Gwangju, Korea, Oct. 2013

33. Jin hyeok Choi, **Youngjun Kim**, Sehyung Park, "3D Preoperative Planning of Intracerebral Hemorrhage (ICH) Removal Robotic Surgery", *Asian Conference on Design and Digital Engineering*, Hokkaido, Japan, Dec., 2012

34. Sangkyun Shin, Deukhee Lee, **Youngjun Kim**, Sehyung Park, "Markerless Registration for Intracerebral Hemorrhage Surgical System using Weighted Iterative Closest Point (ICP)", *34th Int'l Conference of the IEEE Engineering in Medicine & Biology Society*, San Diego, USA, Aug. 2012

35. **Youngjun Kim**, Tae-kyung Lee, Jin hyeok Choi, Yong Kim, Je-kyo Jung, Park Ji-Man, Sehyung Park,

"New registration method for customized dental implant guiding system", *Computer Assisted Radiology and Surgery 2012*, Pisa, Italy, 27-30 Jun., 2012

36. **Youngjun Kim**, Kyung Hwan Kim, Frederick Roy, Sehyung Park, "Development of laparoscopic surgical training system with simulation open source framework architecture (SOFA)", *The Asian Conference on Computer Aided Surgery 2011*, Bangkok, Thailand, 26-27 Aug., 2011

37. Nova Eka Diana, **Youngjun Kim**, Deukhee Lee, Sehyung Park, "Development of a Cost-Effective Haptic System for Laparoscopic Surgery Simulation", *2011 Asian Conference on Design and Digital Engineering*, Shanghai, China, 27-29 Aug., 2011

38. **Youngjun Kim**, Jungsik Kim, Jaesoon Choi, DongJune Chang, Sehyung Park, "Laparoscopic surgery simulation system using boundary element method", *The Asian Conference on Computer Aided Surgery 2010*, Busan, Korea, 26-27 Nov., 2010

39. **Youngjun Kim**, Sang Ok Koo, Deukhee Lee, Laehyun Kim, Sehyung Park, "Mesh-to-mesh collision detection by ray tracing for medical simulation with deformable bodies", *Cyberworlds 2010*, Singapore, 20-22 Oct., 2010

40. Limlim Li, **Youngjun Kim**, Yanzhao Ma, Kang-Il Kim, Kunwoo Lee, "Postoperative analysis of the biomechanical effect of TKA using the finite element method", *CMBBE2010*, Valencia, Spain, 24-27 Feb., 2010

41. Deukhee Lee, **Youngjun Kim**, Laehyun Kim, Sehyung Park, "Hybrid simulator for laparoscopic surgery", Gwangju, Korea, *2009 ICIMT*, 2-5 Dec., 2009

42. **Youngjun Kim**, Wontae Kim, Jin hyeok Choi, Tae-geun Son, Seungbin Lee, Kunwoo Lee. "Volume data inspection tools for industrial computed tomography", *WORLDCOMP'09*, Las Vegas, USA, 13-16 Jul., 2009

43. **Youngjun Kim**, Kunwoo Lee, Wontae Kim. "Image-based 3D torso body modeling", *GRAPP 2008*, Madeira, Portugal, 22-25 Jan., 2008

INTELLECTUAL PROPERTY

Patent

1. "Tracking location of surgical tools in three dimension space based on two-dimensional radiograph", Korea, 2018 (10-1892631)
2. "Modeling method of orbital wall for orbital fracture reconstructive surgery", Korea, 2018 (10-1871601)
3. "Registration method and device for image guidance for craniomaxillofacial surgery", Korea, 2018 (10-1874976)
4. "Registration method of 3D medical radiographic image data and optical scanning teeth model", Korea, 2018 (10-1878467)
5. "Method for reconstruction of 3D maxillofacial model by medical image segmentation", Korea, 2017 (10-1718868)
6. "Image guided surgery system for accurate tunneling in anterior cruciate ligament reconstruction", Korea, 2017 (10-1766771)
7. "Method for Generating Surgery Planning in Mandible Reconstruction Surgery Using Fibula, Surgery Planning Generation Server Performing The Same, And Storage Medium Storing The Same", Korea, 2016 (10-1687634)
8. "Surgical navigation system for anterior cruciate ligament reconstruction", Korea, 2016 (10-1655309)
9. "Method for 3D automatic modeling of shoulder rotator cuff ", Korea, 2016 (10-1663129)
10. "Carving simulation and device for deformable model", Korea, 2014 (1401417)
11. "Patient-specific registration guiding system and the method", Korea, 2014 (1362252)

12. "3 dimension tracking system for surgery simulation and localization sensing method", United States of America, 2014 (8,682,062)
13. "Method of detecting a defect in an object and apparatus for performing the same", Korea, 2010 (10-2011-0002740)
14. "Method for three dimensional reconstruction by two dimensional detection of multi projected light with predetermined magnification angle", Korea, 2010 (10-2011-0037084)
15. "Method of calibrating a dual X-ray imaging system and Method of obtaining a three-dimensional position of a postoperative articulation using the calibrating method", Korea, 2009 (10-1107513)

Patent Pending

1. "Tracking location of surgical tools in three dimension space based on two-dimensional radiograph", United States of America, 2017 (15/631032)
2. "Registration method of 3D medical radiographic image data and optical scanning teeth model", United States of America, 2017 (15/796900)
3. "Automatic bending device for surgical plate", Korea, 2017-0163371
4. "Web-based 3D printing optimal simulation and price estimation system", Korea, 2018-0070856

TECHNOLOGY TRANSFER

1. "3D geometrical model processing software technology", Genoray co., 2018
2. "3D simulation software for aesthetic plastic surgery", GTG Wellness co., 2017
3. "3D planning software for orbital wall fracture reconstructive surgery", ARC Korea co., 2017
4. "Mesh healing and support generation for 3D printing software", A-team ventures co., 2017

Updated on Nov., 2018