

Yehyun Suh

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EDUCATION

Vanderbilt University Doctor of Philosophy in Computer Science	Expected May 2027 Nashville, TN
Dongguk University Bachelor of Science in Information & Communication Engineering	Feb 2022 Seoul, South Korea

WORKING EXPERIENCE

AlphaTEC Spine <i>Research Consultant</i>	June 2024 – Oct 2024 Remote
Subdream Studios <i>Software Developer and Game Analyzing Intern</i>	June 2021 – Aug 2021 Remote
Innovation Center for Engineering Education <i>Working Scholar</i>	Jan 2021 – June 2021, Aug 2021 – Dec 2021 Seoul, South Korea
College of Engineering Office <i>Working Scholar</i>	Mar 2020 – Jan 2021 Seoul, South Korea

RESEARCH EXPERIENCE

Visual Information Neuroimaging Engineering (VINE) Lab , Vanderbilt University <i>Graduate Student Researcher</i> (Advisor: Daniel Moyer Ph.D.)	Sep 2022 – Present Nashville, TN
innovative Radiology AI Laboratory (iRAIL) , Seoul National University Hospital <i>Research Intern</i> (Principal Investigator: Jisun Hwang M.D.)	May 2022 – Aug 2022 Seoul, South Korea
Intelligent Software Architecture (ISA) Lab , Dongguk University <i>Undergraduate Student Researcher</i> (Advisor: Woongsup Kim Ph.D.)	Mar 2020 – Feb 2022 Seoul, South Korea

PUBLICATIONS

* denotes equal contribution

Under Review

- [U3] **Pose Estimation of Acetabular Hip Implants Under Perspective Projection**
Yehyun Suh, J. Ryan Martin, Daniel Moyer
- [U2] **Pedicle Screw Pairing and Registration for Screw Pose Estimation from dual C-arm Images Using Screw CAD Models**
Yehyun Suh, Lin Li, Aric Plumley, Chaochao Zhou, Daniel Moyer, Kongbin Kang
- [U1] **Development of a Machine Learning Model for Determining Alignment in Knees Following Total Knee Arthroplasty**
Anoop Chandrashekar*, Yehyun Suh*, Jacob Fox, Aleksander Mika, Daniel Moyer, Gregory Polkoswski, Martin Faschingbauer, J. Ryan Martin

Journal

- [J3] **Development of a Deep Learning Model for Automating Implant Position in Total Hip Arthroplasty**
Peter Chan, Courtney E. Baker, Yehyun Suh, Daniel Moyer, J. Ryan Martin
Journal of Arthroplasty (IF: 3.4, JCR Q1, Top 10.7 %), 2025

- [J2] **Novel Dilation-Erosion Labeling Technique Allows for Rapid, Accurate and Adjustable Alignment Measurements in Primary Total Knee**
Aleksander Mika*, **Yehyun Suh***, Robert Elrod, Daniel Moyer, Martin Faschingbauer, J. Ryan Martin
Computers in Biology and Medicine (IF: 7.0, JCR Q1, Top 6.0 %), 2025
- [J1] **Deep Learning-based Fully Automatic Risser Stage Assessment Model using Abdominal Radiographs**
Jae-Yeon Hwang, Yisak Kim, Jisun Hwang, **Yehyun Suh**, Sook Min Hwang, Hyeyun Lee, Minsu Park
Pediatric Radiology (IF: 2.1, JCR Q2, Top 37.5 %), 2024

Conference

- [C1] Oral Presentation
Landmark Prediction in Large Radiographs using RoI based Label Augmentation
Mahd Mohsin*, **Yehyun Suh***, Anoop Chandrashekar, J. Ryan Martin, Daniel Moyer
SPIE Medical Imaging, 2025, San Deigo, California

Organized Challenge

- [O1] **Beyond FA**
Elyssa McMaster, Nancy Newlin, Chloe Cho, Gaurav Rudravaram, Karthik Ramadass, Adam Saunders, Jongyeon Yoon, **Yehyun Suh**, Trent Schwartz, Michael Kim, Yihao Liu, Lianrui Zuo, Kurt Schilling, Talia Nir, Neda Jahanshad, Daniel Moyer, Eleftherios Garyfallidis, Bennett Landman
International Symposium on Biomedical Imaging (ISBI), 2025, Houston, Texas

Short Paper

- [S1] **Dilation-Erosion Methods for Radiograph Annotation in Total Knee Replacement**
Yehyun Suh, Aleksander Mika, J. Ryan Martin, Daniel Moyer
Medical Imaging with Deep Learning (MIDL), short paper track, 2023, Nashville, Tennessee

Workshop Paper

- [W1] **Label Augmentation Method for Medical Landmark Detection in Hip Radiograph Images**
Yehyun Suh, Peter Chan, J. Ryan Martin, Daniel Moyer
NeurIPS workshop on Medical Imaging (MedNeurIPS), 2023, New Orleans, Louisiana

Abstract

- [A2] **Pose Estimation of Acetabular Hip Implants in Total Hip Arthroplasty Under Perspective Projection**
Yehyun Suh, J. Ryan Martin, Daniel Moyer
13th Annual Surgery, Intervention, and Engineering Symposium, 2024, Nashville, Tennessee
- [A1] Best Poster Award
Label Augmentation Method for Medical Landmark Detection in Hip Radiograph Images
Yehyun Suh, Peter Chan, Aleksander Mika, J. Ryan Martin, Daniel Moyer
12th Annual Surgery, Intervention, and Engineering Symposium, 2023, Nashville, Tennessee

Korean Book [Participated as an undergraduate research assistant]

- [KB3] 김웅섭, Software engineering - Python, Flask, Heroku, 2021, doi.org/10.979.1191057/478
- [KB2] 김웅섭, 소고기보다 알고리즘, 2021, doi.org/10.979.1191057/850
- [KB1] 김웅섭, Mobile software - HTML, JavaScript, React, 2020

INVITED TALKS & TUTORIALS

Diagnostics and Dashboard

Vanderbilt University

- Link: <https://www.vanderbilt.edu/valiant/ai-summer-school/>

Aug 2024

Nashville, TN

Artificial Intelligence in Medical Scenes

Tennessee State University

- Link: https://www.linkedin.com/posts/vu-electrical-and-computer-engineering_we-had-a-wonderful-kickoff-event-for-our-activity-7122657323675746304-0_cG/

Oct 2023

Nashville, TN

Implementing Data Science Projects in Python

Vanderbilt University

- Link: <https://www.linkedin.com/feed/update/urn:li:activity:7097981972118994944/>

Aug 2023

Nashville, TN

TEACHING EXPERIENCE

DS 5460 Big Data Scaling, Vanderbilt University

Graduate Teaching Assistant

2025 Spring

Nashville, TN

CS 6357 Open-Source Programming for Medical Image Analysis, Vanderbilt University

Graduate Teaching Assistant

2023/2024 Fall

Nashville, TN

CS 1101 Programming and Problem Solving, Vanderbilt University

Graduate Teaching Assistant

2023 Spring

Nashville, TN

RGC 1046 Artificial Intelligence in the Future Society, Dongguk University

Undergraduate Teaching Assistant

2021 Fall

Seoul, South Korea

CSE 2025 Computational Thinking, Dongguk University

Undergraduate Teaching Assistant

2021 Spring

Seoul, South Korea

HONORS AND AWARDS

Graduate

- **Best Poster Award**, 12th Annual Surgery, Intervention, and Engineering Symposium, 2023

Undergraduate

- Summa Cum Laude, 2022, Dongguk University
- Dean's List, Dongguk University, 2016 Spring/2016 Fall/2020 Spring/2020 Fall/2021 Spring
- Software Academic Excellence Scholarship, Dongguk University, 2020 Fall/2021 Spring
- Academic Excellence Scholarship, Dongguk University, 2016 Spring/2016 Fall/2021 Spring
- 3rd Place in XR Challenge Competition, Ministry of Science and ICT, Korea, 2021
- 3rd Place in Summer Dongguk Capstone Value Up Program, Dongguk University, 2021
- 2nd Place in Graduation Project Competition, Dongguk University, 2021
- 4th Place in Winter Dongguk Capstone Value Up Program, Dongguk University, 2021
- Course Excellence Scholarship, Enterprise & Society Tailored Capstone Design, Dongguk University, 2021
- Course Excellence Scholarship, Operating System, Dongguk University, 2020
- Oversea Academic Tour Scholarship, Dongguk University, 2017

MENTORING EXPERIENCE

Mahd Mohsin, Undergraduate Student at Vanderbilt University

Landmark Prediction on Large Scale Radiograph Images

- Publications: [C1]

Dec 2023 – Present

Cheng Qiu, Undergraduate Student at Vanderbilt University

Hybrid Graph U-Net for Image Segmentation

June 2023 – Aug 2023

REFERENCES

Daniel Moyer, Ph.D., Assistant Professor
Department of Computer Science
School of Engineering
Vanderbilt University
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Woongsup Kim, Ph.D., Associate Professor
Department of Information & Communication Engineering
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J. Ryan Martin, M.D., Assistant Professor
Adult Reconstruction Division
Vanderbilt University Medical Center
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Sungyoun Choi, Ph.D., Research Professor
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