

# Jin Kim

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<https://jink-ucla.github.io>

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## » Education

### University of California, Los Angeles

*Ph.D in Physics and Biology in Medicine Graduate Program*

- GPA: 3.84/4.0

- Qualifier: [Leveraging Foundation Models, Knowledge Distillation, and Pseudo-Labeling for Robust Lung Segmentation in Computed Tomography Scans](#)

- Proposal: [Vision-Language Modeling for Medical Image Analysis](#)

Los Angeles, CA

Sep 2022 - Present

### Seoul National University

*M.E in Interdisciplinary Program of Bioengineering*

- Merit-based scholarship (100% tuition waiver)

- GPA: 3.68/4.3

- Thesis : [Development of an AI-Enhanced AR Navigation System for Precise Mastoidectomy](#)

Seoul, Korea

Jun 2020 - Sep 2022

### Yeungnam University (Including Mandatory Military Service)

*B.E in Electrical Engineering*

- Merit-based scholarship (70% tuition waiver)

- GPA: 3.95/4.5(Major), 3.75/4.5(Overall)

Gyeongsan, Korea

Mar 2009 - Aug 2016

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## » Publications

[P01] Sul-Hee Kim\*, **Jin Kim\***, Su Yang, Sung-Hye Oh, Seung-Pyo Lee, Hoon Joo Yang, Tae-Il Kim, and Won-Jin Yi “[Automatic and Quantitative Measurement of Alveolar Bone Level in OCT Images Using Deep Learning](#)”, *Biomedical Optics Express*

[P02] **Jin Kim**, Muhammad Wahi-Anwa, Sangyun Park, Shawn Shin, John M. Hoffman, Matthew S. Brown “[Autonomous Computer Vision Development with Agentic AI](#)”, *Arxiv*

[P03] Junyu Chen, Shuwen Wei, Joel Honkamaa, Pekka Marttinen, Hang Zhang, Min Liu, Yichao Zhou, Zuopeng Tan, Zhuoyuan Wang, Yi Wang, Hongchao Zhou, Shunbo Hu, Yi Zhang, Qian Tao, Lukas Föörner, Thomas Wendler, Bailiang Jian, Benedikt Wiestler, Tim Hable, **Jin Kim**, Dan Ruan, Frederic Madesta, Thilo Sentker, Wiebke Heyer, Lianrui Zuo, Yuwei Dai, Jing Wu, Jerry L. Prince, Harrison Bai, Yong Du, Yihao Liu, Alessa Hering, Reuben Dorent, Lasse Hansen, Mattias P. Heinrich, and Aaron Caras “[Beyond the LUMIR challenge: The pathway to foundational registration models](#)”, *Nature Machine Intelligence*, (under review)

[P04] **Jin Kim**, Matthew Brown, Dan Ruan “[Dual-path Radiology Report Generation: Fusing Pathology Classification with Language Model](#)”, *MICCAI 2025 Workshop on MLLMs in Clinical Practice*

[P05] Lasse Hansen, Wiebke Heyer, Christoph Großbrömer, Frederic Madesta, Thilo Sentker, Wang Jiazheng, Yuxi Zhang, Hang Zhang, Min Liu, Junyi Wang, Xi Zhu, Yuhua Li, Liwen Wang, Daniil Morozov, Nazim Haouchine, Joel Honkamaa, Pekka Marttinen, Yichao Zhou, Zuopeng Tan, Zhuoyuan Wang, Yi Wang, Hongchao Zhou, Shunbo Hu, Yi Zhang, Qian Tao, Lukas Föörner, Thomas Wendler, Bailiang Jian, Christian Wachinger, Tim Hable, **Jin Kim**, Dan Ruan, Marek Wodzinski, Henning Müller,

Tony C.W. Mok, Xi Jia, Mikael Brudfors, Seyed-Ahmad Ahmadi, Yunzheng Zhu, William Hsu, Tina Kapur, William M. Wells, Alexandra Golby, Aaron Carass, Harrison Bai, Yihao Liu, Perrine Paul-Gilloteaux, Joakim Lindblad, Nataša Sladoje, Andreas Walter, Junyu Chen, Reuben Dorent, Alessa Hering, Mattias P. Heinrich “Learn2Reg 2024: New Benchmark Datasets Driving Progress on New Challenges”, Learn2Reg 2024, *Machine Learning for Biomedical Imaging*, (under review)

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## » Selected Conferences

- [C01] Sangyun Park\*, **Jin Kim\***, Yuchen Cui, Matthew Sherman Brown “TRACE: Textual Reasoning for Affordance Coordinate Extraction”, *ICCV 2025 Workshop on Knowledge-Intensive Multimodal Reasoning*, (Under Review)
- [C02] Sangyun Park\*, **Jin Kim\*** “SPAR: Spatial Precision with Articulated Reasoning”, *ICCV 2025 Workshop on Multi-Modal Reasoning for Agentic Intelligence*, (Under Review)
- [C03] **Jin Kim**, Matthew Brown, Dan Ruan “[Improving Foundation Models with Deep Layer Adapters for Medical Image Segmentation](#)”, *RSNA 2024* (Oral presentation)
- [C04] **Jin Kim**, Matthew Brown, Dan Ruan “[Self-Supervised Learning Without Annotations to Improve Lung Chest X-Ray Segmentation](#)”, *SPIE 2024*
- [C05] **Jin Kim**, Da-El Kim, Min-Hyuk Choi, Su Yang, Se-Ryong Kang, So-Young Chun, and Won-Jin Yi “A Faster Deep learning-based Registration for Ear Surgery”, *EMBC 2022*
- [C06] **Jin Kim**, Da-El Kim, MinHyuk Choi, Su Yang, Se-Ryong Kang, So-Young Chun, Ji-Yong Yoo, Siyeon Noh, Sehum Kim, and Won-Jin Yi “A Registration Method between Optical Tracker and Depth Camera Using Deep Learning”, *ICS 2022*
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## » Selected Honors and Awards

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|------------------------------------------------------------------------------------------------|----------|
| <a href="#">SPIE 2024, Live Demonstrations Workshop - 1<sup>st</sup> place</a>                 | Mar 2024 |
| <a href="#">MOAI 2021, CT Segmentation task (Pseudolab) - 3<sup>rd</sup> place</a>             | Sep 2021 |
| Oral Disease AI Contest – Classification task - 3 <sup>rd</sup> place                          | Mar 2021 |
| <a href="#">Healthhub datathon – CBCT Segmentation task (Team MIIL) - 1<sup>st</sup> place</a> | Nov 2020 |

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## » Academic Service

### Reviewer, MICCAI 2025

- Reviewing papers in medical image computing and computer-assisted interventions.

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## » Patents

Seon Tae Kim, Dong Kyu Kim, Wonjin Yi, **Jin Kim**, Bo Soung Jeoun, “[NAVIGATION APPARATUS AND METHOD BASED ON AUGMENTED REALITY MICROSCOPE](#)” (10-2021-0188979)

Seon Tae Kim, Dong Kyu Kim, Wonjin Yi, **Jin Kim**, Bo Soung Jeoun, “[NAVIGATION SYSTEM USING SPRINT AND IMAGE REGISTRATION METHOD USING THE SAME](#)” (10-2021-0188978)

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## » Work Experience

### ABB Korea

Project Engineer

Cheonan, Korea  
Oct 2016 - May 2020

- Automation line design, simulation, coding, and commissioning
- Projects involved:
  - Samsung(SDV) production line automation project in Bắc Ninh, Vietnam
  - And 20 more

### CVE Technology Group, Inc.

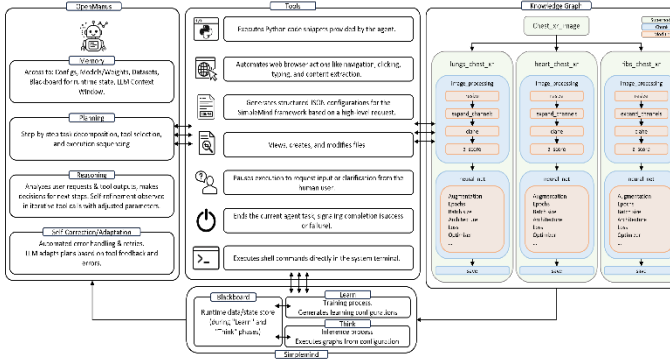
Intern - Technical Support Team

Plano, Texas  
Feb 2015 - Jan 2016

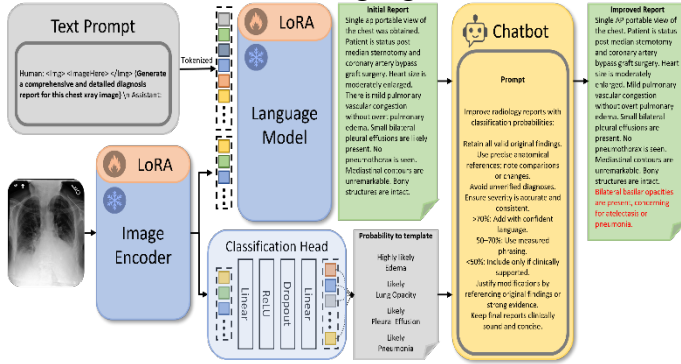
## » Research Summary

I specialize in creating AI systems that interpret both images and text in a precise, context-driven way. While healthcare is a strong motivation, my broader interest lies in ensuring these multimodal models perform well wherever detail and accuracy are crucial. By developing specialized evaluation methods, I aim to advance the domain demanding real, semantic understanding and reliable outcomes. Here are the selected projects I've done.

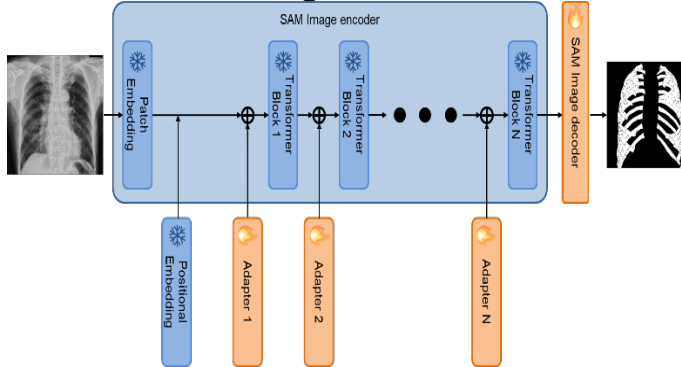
## 1. Agentic AI



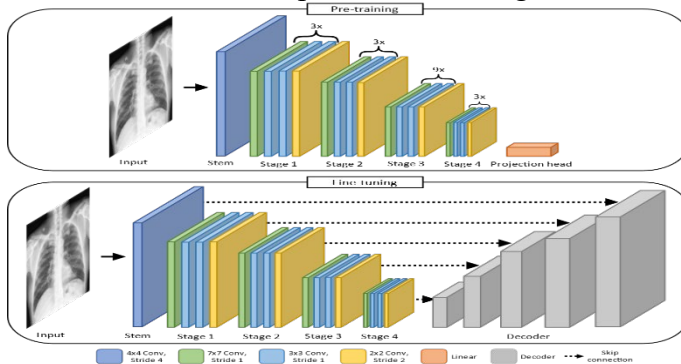
## 2. Vision-Language Model



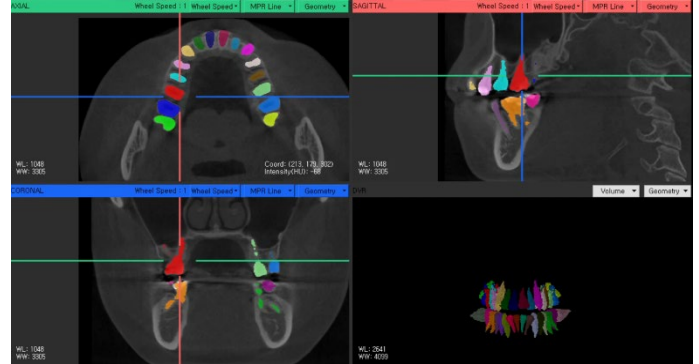
### 3. Fine-tuning Foundation Model



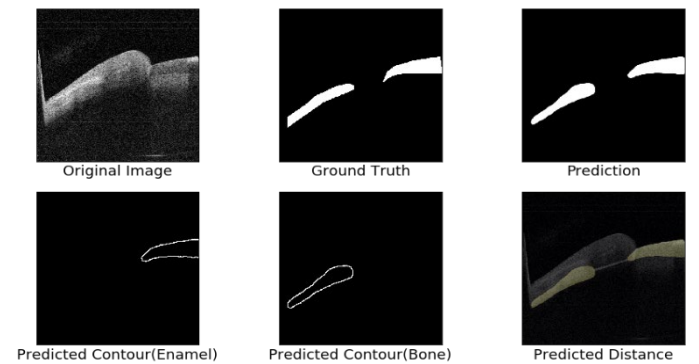
#### 4. Self-Supervised Learning



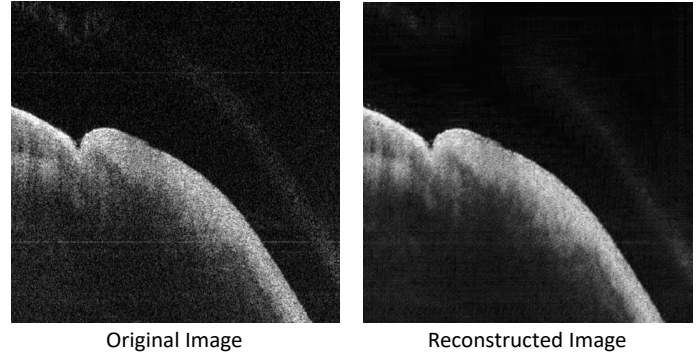
## 5. Tooth Segmentation



## 6. Enamel-Bone Distance Estimation



## 7. Noise Reduction



## 8. Surgical Tool Detection

