Beom Jun Lee

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Education

Georgia Institute of Technology | Atlanta, GA

Master of Science in Bioengineering *August 2020 – May 2022*

- Thesis: *Artificial Intelligence-based Patient-Specific Reconstruction of Aortic Root in Transcatheter Aortic Valve Replacement Patients*
- Supervised by Dr. Lakshmi Prasad Dasi (Cardiovascular Fluid Mechanics Laboratory)

Bachelor of Science in Mechanical Engineering *August 2016 – May 2020*

- **Highest Honors**
- Minors: Biomedical Engineering

Experience

DASI Simulations, Dublin, OH

Principal Data Scientist *Aug 2024 - Present*

- **Architected** automatic pipelines for reconstructing patient-specific anatomical structures from CT images, replacing the company's reliance on third-party software, resulting in an estimated $400,000/year savings in licensing fees, reducing processing time per case by 30%, and enabling control over data privacy and regulatory compliance in a medical imaging workflow.
- **Led the development** of software for automatic clinical measurement extraction from CT scans, navigating the full lifecycle from design to a successful FDA 510(k) clearance in collaboration with cross-functional teams.
- **Built and maintained** machine learning models for tasks including 3D landmark detection, 3D image segmentation, to point-cloud clustering as a part of an automated pipeline.

Data Science Engineer *May 2022 – Aug 2024*

- **Developed** an internal application using PyQt5 and VTK to visualize/verify AI model outputs consisting of 3D segmentations and landmarks, enabling users to make precise manual edits based on CT image.

Publications

Moderated Poster Presentation

- *Lee B, Polsani V, Thourani V, et al. "Automatic Measurement of Aortic Structures Using Artificial Intelligence for Pre-procedural Evaluation of TAVR Patients". J Am Coll Cardiol. 2022, (9_Supplement) 650. https://doi.org/10.1016/S0735-1097(22)01641-2*

Published Abstract

- *B. J. Lee et al., "Attention-based Automated Chest CT Image Segmentation Method of COVID-19 Lung Infection," 2022 IEEE 22nd International Conference on Bioinformatics and Bioengineering (BIBE), Taichung, Taiwan, 2022, pp. 158-163, doi: 10.1109/BIBE55377.2022.00042.*

Volunteer

Korea Spina Bifida Patient Association, Seoul, South Korea *June 2015- August 2017*

International Ambassador

- Represented the association in the process of enlisting in as a member of international associations that seek to serve the Spina Bifida patients globally.

Skills

Programming Languages: Python, JavaScript, HTML, MATLAB, Arduino
Tools/Frameworks: PyTorch, Tensorflow, Keras, Sklearn, Numpy, PyQt, Blender

Certificates

IBM : Analyzing Data with Python (EdX) *May 2019*
Machining Learning A-Z: Hands-On Python & R in Data Science *May 2019*