

Heejoo Jin

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EDUCATION

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Georgia Institute of Technology, Atlanta, Georgia, U.S. | August 2017 - December 2021

Bachelor of Science in Computer Science | Dean's List | GPA: 3.74 / 4.0

SKILLS

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Java, Python

PyTorch, Keras, OpenCV

HTML, CSS, SQL, Android Studio

RESEARCH EXPERIENCE

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Exoskeleton and Prosthetic Intelligent Controls (EPIC) Lab, Georgia Tech

May 2019 - Present

Machine Learning Undergraduate Researcher

• Develop different machine learning models (1D-CNN, LSTM, TCN & MLP) that estimate user gait variables such as gait phase, step length, and walking speed, to provide robust exoskeleton assistance that adapts to variations in a user's gait dynamics.

• Utilize biomechanical sensors and Vicon motion capture system to understand human robot interaction.

• **Conference Paper**

H. Jin, I. Kang, G. Choi, D. Molinaro, A. Young, Wearable Sensor-Based Step Length Estimation During Overground Locomotion Using a Deep Convolutional Neural Network, *IEEE Engineering in Medicine and Biology Society (EMBC)*, May 2021, Submitted.

• **Poster Presentation**

H. Jin, M. Shepherd, D. Molinaro, I. Kang, A. Young, Convolutional Neural Network-based Gait Phase Estimation and Classification using a Robotic Ankle Exoskeleton, *Georgia Tech Annual Undergraduate Research Symposium*, April 2021.

Augmented Environment Lab, Georgia Tech

August 2018 - December 2018

Augmented Reality Undergraduate Researcher

• Contributed to the idea creation and Unity development of a mixed reality theatre performance, "The Safety Show" in collaboration with DramaTech Theatre where AR was used to convey and visualize the emotions of the scene.

PROFESSIONAL EXPERIENCE

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DEEPNOID, Seoul, South Korea

October 2020 - December 2020

Deep Learning Research Intern

• Worked with National Cancer Center on developing a classification model of breast cancer histology images using EfficientNet.

• Assisted in optimizing a U-Net model for multi-class semantic segmentation of subchondral bone cyst DICOM MR images.

• Managed Grad-CAM implementation for model explainability and the deployment of the model via REST API using Kafka & Flask.

Samsung Electronics, Suwon, South Korea

June 2020 - August 2020

Software Engineer Intern

• Designed a Bluetooth Low Energy (BLE) connectivity solution that covers edge cases of Galaxy Buds Automatic Sound Switching.

• Developed a Proof of Concept Android application for BLE connectivity with Galaxy Buds using Java & Android BLE API.

WarnerMedia, Atlanta, Georgia, U.S.

January 2019 - May 2019

Quality Assurance Analyst Intern

• Debugged and tested mobile games and apps that reached 1,000,000+ users and documented defects in a concise manner on Jira.

• Conducted user research with children aged 8-12 to understand their user experience with Cartoon Network Arcade app.

PROJECTS

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Real-time Face Recognition

• Implemented real-time face recognition on Raspberry Pi using OpenCV & Python.

Cardiovascular Disease Classification

• Conducted a comparative study of supervised and unsupervised learning algorithms to analyze their performances.

ECG Anomaly Detection

• Developed a LSTM Autoencoder to detect heartbeat anomalies.

LEADERSHIP

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Korean American Scientists and Engineer Association (KSEA), Georgia Tech

May 2020 - May 2021

President

• Empowered Korean-American students at Georgia Tech by providing opportunities to engage in career development and networking.

• Oversaw the financial management and secured \$1,000+ funds from KSEA HQ and the Student Organizations Finance Office.