

GEONSOO KIM

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U.S. Citizen

KEYWORDS

2D/3D Image Processing, Computer Vision, Machine Learning, Visualization, Lab Automation, DevOps, 4-Year of Experience

EDUCATION

Georgia Institute of Technology <i>M.S. in Computer Science</i>	Atlanta, GA Aug 2022
University of Wisconsin - Madison <i>B.S. in Electrical Engineering</i>	Madison, WI May 2019

WORK EXPERIENCE

Software Engineer (C++, Python, OpenGL, GLSL, OpenCV) <i>Meta Reality Lab (Contract)</i>	Mar 2023 - Present <i>Redmond, WA</i>
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- Work on characterizing depth data from VR headsets (Meta Quest3 and 3S)
- Develop automation tools for data collection and uploading of VR headset recordings in various scenarios for 3D depth characterization
- Develop post-processing tools (pointcloud denoising, image stitching, perspective-n-point, etc.) for collected 2D/3D image data, enabling efficient and accurate analysis
- Maintain and update a large-scale ML-based 2D/3D image processing pipeline that creates the depth artifacts and KPI metrics
- Integrate an open-source visualization tool (Rerun) into the pipeline to visualize the generated artifacts

Computer Vision Engineer (Python, OpenCV, Halcon) <i>LAB0 (Stealth Startup)</i>	May 2022 - Nov 2022 <i>Vancouver, WA</i>
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- Implemented object segmentation for various size of shipping boxes by using Halcon machine vision
- Developed OCR/OCV application for automated logistic identification, leveraging the Tesseract OCR engine to extract and verify text from images accurately

Embedded Software Engineer (C++, Qt, Firmware) <i>BAE Systems, Inc.</i>	Jun 2019 - Oct 2020 <i>Minneapolis, MN</i>
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- Worked on real-time flight software running on a guided projectile
- Developed device drivers to integrate peripheral devices connected on FPGA unit with an ARM Cortex-A9 processor in a System-on-Chip (SoC) system
- Automated new FPGA module validation via HPS-FPGA bridge
- Integrated the code interface of a GPS simulator into flight software
- Created unit tests (Google Test framework) for flight software source code

Software Engineer (Python, LabView, SQL) <i>GE Healthcare</i>	Apr 2018 - May 2019 <i>Madison, WI</i>
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- Automated data collection for oxygen sensor modules in the lab and data uploading to GE's database
- Developed GUI applications for manufacturing line for testing the oxygen sensor module
- Led software validation processes for official use in GE and its suppliers, ensuring the quality and reliability of software products

TEACHING EXPERIENCE

Microsoft TEALS Volunteer Teacher

Aug 2024 - Present

- Remotely teaches Python programming (CMU CS1) to high school students at Piney Woods School, Mississippi

Graduate Teaching Assistant/ Associate Instructor

Jan 2021 - May 2023

Georgia Institute of Technology

- CS 6476: Computer Vision (5 Semesters - Spring 2021, 2022, 2023/ Fall 2021, 2022)

RESEARCH EXPERIENCE

Project Member (Pytorch, NVIDIA Jetson Nano, GCP)

Jan 2021 - Dec 2021

Laboratory for Intelligent Decision and Autonomous Robots, Georgia Institute of Technology

- Supervised by Prof. Ye Zhao
- Conducted semantic terrain segmentation for analyzing traversability of four-legged robots
- Used self-supervised approach with multi-modality inputs

Deep Learning Intern (Tensorflow, Keras, GPU, Docker)

May 2021 - Aug 2021

Medical Image Innovation Lab, Seoul National University

Seoul, South Korea

- Supervised by Prof. Won-Jin Yi
- Conducted deep learning-based segmentation of middle and inner ear structures in CT images
- Conducted ablation study with various feature extraction modules and customized loss functions

Deep Learning Intern (Tensorflow, Keras, Azure)

Oct 2020 - Jan 2021

NeuralWorks Lab

Seoul, South Korea

- Worked with researchers at Seoul St. Mary's Hospital
- Implemented a colorectal polyps segmentation based on coarse-to-fine architecture

EXTRACURRICULAR ACTIVITIES

Kaggle Competition

Aug 2021 - Sep 2021

- Participated in MOAI 2021 Body Morphometry AI Segmentation Online Challenge (3rd place)

U.S. Army Reserve Soldier

Mar 2014 - Mar 2020

- Distinguished Honor Graduate of U.S. Army Advanced Individual Training
- Received one Army Achievement Medal (AAM)