TIMOTHY JOSHUA DY CHUA

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Skills

- Programming Languages: Python, C++, Assembly Language, Verilog
- Frameworks and Tools: PyTorch, Github, Docker, Xilinx, Jupyter
- Languages: English (Native), Japanese (N4)

Work Experience

Edgecortix – Machine Learning Software Engineer Tokyo, JP
TECH STACK: Python, Jupyter, PyTorch, MERA *May 2023 – Present*
• Participated in the company booth at the AI Expo in Tokyo Big Sight.

Edgecortix – Machine Learning Software Engineer Intern Tokyo, JP
TECH STACK: Python, Jupyter, PyTorch, MERA *Aug 2022 – Oct 2022*
• Trained an object detection model, quantized and compiled it using the MERA compiler, and deployed it to Dynamic Neural Accelerator FPGA.

Rakuten - Computer Vision Research Intern Tokyo, JP
TECH STACK: Python, Jupyter, PyTorch, Docker *Feb 2022 – May 2022*
• Collaborated on a research project for object classification using deep metric learning
• Contributed to a team of 10 in the Vision Program under the Department of Rakuten Institute of Technology
• Created a step-by-step guide for model training using the cloud

Anritsu - FPGA Software Engineer Manila, PH
TECH STACK: Verilog, ModelSim, QuestaSim, Vivado, Python3 *Aug 2018 – Dec 2020*
• Designed modules in development of 400G Ethernet and USB 3.2 Protocol.
• Worked in a team of three to implement Verilog modules
• Collaborated with other teams in Anritsu Japan in designing, developing, and testing modules

Education

The University of Tokyo Tokyo, JP
M.S. Information Science and Technology *April 2021 – March 2023*
• Monbukagakusho MEXT Scholarship Awardee
• Specialized in Machine Learning, Computer Vision
• Department of Creative Informatics, Graduate School of Information Science and Technology

University of the Philippines Diliman, CUM LAUDE Manila, PH
B.S. Computer Engineering *June 2013 – June 2018*
• National university of the Philippines, 17% acceptance rate
• Relevant Coursework: Artificial Intelligence, Software Engineering, Embedded Systems, Computer Networks, Operating Systems, C Programming, Python Programming

Projects

Exploration of Deformable Vision Transformers as Feature Extractors in Multiple Object Tracking
TECH STACK: Python, Jupyter, PyTorch
• Master's Thesis under Professor Hideki Nakayama in the University of Tokyo
• Developed a modification for the D-DETR transformer encoder to incorporate previous frame information.
• Developed a method for visualization of attention for D-DETR based computer vision systems.
• Improved on the ViTT MOT network by replacing the ViT with the ViTDet transformer which produced an overall 13% increase in performance.
• Implemented the deformable variant of the ViTDet transformer architecture.