Tony Ho - Computer Vision and Machine Learning Engineer

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LinkedIn / GitHub / Portfolio

EXPERIENCE

Machine Learning Engineer

Hypothetic (Co-op) - Vancouver, Canada — May 2023 - Jan 2024

- Developed point cloud models for 3D segmentation
- Trained deep learning models using PyTorch and PointNet++, in Python
- Prototyped a web tool for zero-shot segmentation using SAM in ReactJS
- Created an auto-labeling method for 3D model segments using UV texture data
- Researched applications in the generative 3D field based on recent papers

Computer Vision and Machine Learning Engineer

DaoAI Robotics (Co-op) - Vancouver, Canada — Jan 2022 - Aug 2022

- Developed a computer vision training, testing, and deployment pipeline
- Trained deep learning models using PyTorch, Torchvision, Detectron2, in Python
- Applied image processing and model inference, in C++ with LibTorch
- Implemented segmentation models such as Faster-RCNN, Mask-RCNN, UNet
- Improved accuracy to over 95% for bin picking tasks in a factory environment
- Researched, developed, and deployed a Rotated Mask-RCNN model, improving mask IOU from less than 0.5 to over 0.8

Game Developer Software Engineer

Critical Force - Kajaani, Finland & Seoul, South Korea — Jul 2017 - Apr 2019
Artcode Interactive - Vancouver, Canada — Nov 2014 - Jan 2017

- Created gameplay systems using 3D vector physics in C# with Unity3D
- Optimized code performance for real-time 3D simulations on mobile devices
- Developed core features and developer tools for live services used by 1 million daily users, including gameplay, asset pipeline, UI, social, and localization
- Worked in agile environments with daily stand-ups with technical and non-technical stakeholders

PROJECTS - Portfolio Website

AWS Warehouse Image Classifier

Trained ResNet34 and ViT image classification models using AWS Sagemaker and other cloud resources, leveraging distributed training and spot instances

Connect4 Action AI

Trained Faster-RCNN instance segmentation model and exported to PyTorch Mobile, deployed on Android, and displays results on device in real-time, in Python and Java

CERTIFICATES

Udacity Nanodegree for **AWS Machine Learning Engineer**

EDUCATION

Simon Fraser University
Vancouver, Canada

Master of Science in Professional Computer Science
Visual Computing specialization
Sep 2022 - Apr 2024

Bachelor of Science in Computer Science
Sep 2020 - Aug 2022

COURSES

- Generative Models
- Frontiers of Computer Vision
- Rendering for AI
- Machine Learning
- Cloud Computing

TECHNICAL SKILLS

Languages

- Python
- C/C++
- C#
- Java

Libraries/Frameworks

- PyTorch
- Linux/Ubuntu
- OpenCV
- Matlab
- Unity3D

Tools

- Git
- Visual Studio Code
- Docker
- Anaconda
- AWS
- Google Cloud
- Android Studio
- Pandas
- SQL