AN NGUYEN DUC THIEN

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OBJECTIVE

Experienced in mechanical engineering, computer vision, robotics, reinforcement learning.
I am currently seeking an opportunity for higher education in fields related to Robotics, Mechatronics, and Control Theory. Dedicated, self-motivated, detail-oriented, and quick learner that can adapt to changes with good communications, and problem-solving abilities. Responsible, hardworking, and committed, always try the best to get the job done.

EDUCATION

HONORS PROGRAM, HO CHI MINH CITY UNIVERSITY OF TECHNOLOGY, *Aug 2020 - Present*
Mechanical Engineering

- GPA 3.6/4.
- 168/170 GRE quantitative reasoning
- 7.5 IELTS Academic (9.0 in Listening and 8.0 Reading)
- Member of I.U.D lab – Robotics development team.
- Member of BKAIC club – Academic team (Bach Khoa Artificial Intelligent Club).
- 915 TOEIC listening and reading

GIA DINH HIGHSCHOOL, *Specialization class in Mathematics* *2017 - 2020*

- 2nd Prize, Math, Ho Chi Minh city Excellent student contest 2020
- Silver ruler, Iranian geometry Olympiad 2020

EXPERIENCE

CAPSTONE PROJECT: Reinforcement learning for quadruped robot locomotion over rough terrain (Ongoing) (Video Link) *Aug 2023– Present*

- Calculate and design a quadruped robot model.
- Build a quadruped robot model using 3D printed parts.
- Deploy the simulation using PyBullet to train Reinforcement Learning model.
- Implementing the Soft Actor-Critic (SAC) algorithm for the control algorithm.

PAPER: Ramage detection using Cycle GAN (Link) *Mar - May 2023*

- Paper accepted at Journal of Engineering Science and Technology (JESTEC).
- Using vibration data to detect anomaly in a cantilever beam using generative models. Vibration data is encoded into a lower-dimensional space, and the three-sigma rule is applied to detect anomalies.

PAPER: Study on anomaly detection of steel beam using Variational Autoencoder (VAE) (Link) *Nov 2022 - Mar 2023*

- Paper submitted to Vietnam mechanical engineering journal.
- Variational Autoencoders (VAEs) are used to statistically detect anomalies in a cantilever beam.

PAPER: Design, calculate and select bolted joint between a speed reducer and the frame (Link) *Nov 2022 - Mar 2023*

- Paper submitted to Vietnam mechanical engineering journal.
- Write a program to calculate and select appropriate bolt size for gear box model that satisfy safety requirements.

Build a Progressive GAN model (Link) *Nov - Dec 2022*

- Reimplement from scratch progressive GAN models (4M parameters) using the CIFAR-10 dataset (60.000 32x32 images)
- Generate images from low resolution to higher resolution for stability, and compare the effects of minibatch standard deviation layers using two models.

Workshop at ABB robotics (Link) *June – Sep 2022*

- Robot control with RAPID programing language. Control 6-dof robot arm and delta robot.
- Use vision tools to pick and place object on conveyor belt with conveyor tracking module.

TECHNICAL CAPACITIES

Machine learning frameworks

PyTorch, TensorFlow, Keras, scikit-learn

3D Printing

Parameters setting, fine-tuning, fast modelling

3D MODELLING

Proficient in using 3D drawing tools: AutoCAD, Inventor, Solidworks, Nastran

PROGRAMMING LANGUAGE

Python, MATLAB, C

Microsoft Office Skills

MS Word, MS Excel, and PowerPoint

CERTIFICATIONS

Introduction to Programming with MATLAB – *Coursera*
Intro to machine learning – *Kaggle*
Data Visualization – *Kaggle*