# TRAN VAN CHIEN

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## RESEARCH INTERESTS

My research interest lies in motion planning and path planning algorithms and SLAM (Simultaneous localization and mapping). Additionally, I'm also fond of implementing machine learning models that can understand visual information, reasoning, and extracting knowledge from a series of frames to help robots work effectively in complex dynamic environments. Currently, my work focuses on how to make those planning algorithms more adaptive by combining them with Deep Learning techniques.

## EDUCATION

9/2019 - 12/2023 | **University of Engineering and Technology - Vietnam National University**
*Undergraduated Student of Robotics Engineering*

## RESEARCH EXPERIENCE

8/2022 - present | **Research Assistant**
*Research Assistant*
- Supervisor: PhD. Student Nguyen Manh Nguyen - **Google Scholar**, **Letter of Recommendation**
- Work on Visual Counting and Scene-Text-Spotting problems

8/2020 - 1/2022 | **Department of Robotic Engineering, UET-VNU**
*Research Assistant*
- Supervisor: Assoc. Prof. PhD. Xiem Hoang Van - **Google Scholar**
- Learning about Solidworks.
- Learning about OpenCV, Machine Learning & Deep Learning: **Repository**.
- Having experience with how to use Raspberry Pi Mouse. Implementing some of the recognition techniques like using voice to control movement, and tracking with color: **Youtube Video**.
- Having experience with ROS1. Implementing SLAM technique (Hector, Gmapping) and navigation based on that by Raspberry Pi Mouse: **ROS.pdf**, **Youtube Video**.
- Learning about Reinforcement Learning Lecture at UET: **RLQuadruped.pdf**.

2020 | **CS50's Introduction to Artificial Intelligence with Python**
*Self-Learning*
- Starting approach to AI as an experience

## INDUSTRIAL EXPERIENCE

7/2022 - 9/2022 | **Koh Young Technology Inc. Vietnam**
*Internship*

- Supervisor: PhD. Tuan Anh Nguyen - **LinkedIn**
- Image Stitching by just Computer Vision, have no Deep Learning or Machine Learning technique. The dataset is provided by Koh Young, which is images of sub-circuit. The progress reached 60% overall.

## PROJECTS

1/2023 - present | **Multi-UAVs Path Planning on Point Cloud**
*Final Thesis*

- Using some algorithms on multi-UAVs for obstacle avoidance while flying to a specific destination indoor like a warehouse or factory on Point Cloud
- Tools: MATLAB, Python

6/2022 - 12/2022 | **UAV Path Planning on Point Cloud**
*Self-Learning*

- Reconstructing an area of the environment by Point Cloud and generating a trajectory for UAV flies based on Point Cloud data as input: **Path Planning on Point Cloud**
- Tools: MATLAB, C/C++

1/2022 - 4/2022 | **3D Bounding Box Estimation Using Both Camera and LIDAR**
*Self-Learning*

- How to use the camera 2D and LIDAR to reconstruct 2D views of the object into 3D: **Complex-YOLOv4-Pytorch**
- Tools: Python, OpenCV, Pytorch, Scikit learn

10/2021 - 3/2022 | **Reinforcement Learning for a Traffic Control application**
*Research Assistant*

- Using Reinforcement Learning to decide which light will be turned on, it means which road will be opened and vehicles can go through: **Traffic Light Control**
- Tools: MATLAB, Python

## TECHNICAL SKILLS

**Programming Languages**: Python, C/C++
**Software Packages & Tools**:

- Software Packages: Linux, ROS1, GIT, MATLAB, SolidWorks, Maple, Gazebo, LATEX
- Machine Learning: Pytorch, Keras, Scikit learn
- Computer vision: OpenCV
- Data engineering: Pandas, Matplotlib, Numpy

**Hardware Platform**: Embedded program on Nano JetsonTX2, Raspberry Pi, Arduino

## ACTIVITIES

1/2023 - 2/2023 | **National Robotics Championship**
*Support Associate*
- STEAM for Vietnam Foundation
- Head Referee

8/2022 - 9/2022 | **National Robotics Tournament**
*Support Associate*
- STEAM for Vietnam Foundation
- Scorekeeper Referee Lead

12/2021 | **The 24th REV-ECIT**
*Support Associate*