

PHONE THIHA KYAW

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mlsdphonethk@gmail.com | Curriculum Vitae, 7th July 2024

EDUCATION

University of Portsmouth, Portsmouth, United Kingdom
Bachelor of Engineering with Honours in Electronic Engineering
Thesis Title: *A Novel Any-angle Path Planning Algorithm
on Non-uniform Grid Maps*
Supervisor: Prof. Thet Naing Oo

May 2022 - May 2023
First Class Honours

Yangon Technological University, Yangon, Myanmar
Mechatronics Engineering
Supervisor: Prof. Theint Theint Thu

December 2015 - December 2021

RESEARCH AND WORK EXPERIENCE

LionsBot International Pte Ltd, Singapore

February 2022 - July 2024

Software Engineer, Autonomy

- Led the development and strategic planning of key modules and infrastructure for the perception stack
- Provide leadership in reviewing, guiding, and training the team to improve overall code quality and performance
- Led the initiative to set up internal automated testing and tooling infrastructure to optimize development processes
- Contributed to the development of multiple patent-pending technologies

ROAR Lab

October 2019 - December 2020

Research Intern

Supervisor: Prof. Mohan Rajesh Elara

Singapore University of Technology and Design

- Published research articles on robotics, path planning, and computer vision
- Developed autonomy systems for various indoor and outdoor reconfigurable robots, including stair-climbing and wall-climbing robots

TEACHING AND VOLUNTEERING

Computer Vision and Machine Learning Lab

January 2021 - December 2021

Teaching Assistant

Supervisor: Prof. Theint Theint Thu

Department of Mechatronic Engineering

Yangon Technological University, Myanmar

- Instructor of [McE-51069](#) (AI & Computer Vision) online course
- Designed and delivered a comprehensive course curriculum focused on reinforcement learning

Cluster of Science and Technology

July 2017 - June 2018

President

Yangon Technological University, Myanmar

- Served as President of the student club “Cluster of Science and Technology (CST)”
- Led the team for one year, overseeing activities aimed at keeping students updated on the latest developments in science and technology

- Contributed to the promotion of science and technology awareness within the university community, enhancing engagement and knowledge sharing

Lae Lar Technology Co.,Ltd

March 2018 - March 2020

Instructor

- Designed and developed online courses on Robot Operating System (ROS) and Python programming language, empowering Myanmar students to stay updated with the latest trends in robotics

NANODEGREES

Udacity C++ Nanodegree Program

Graduated February 2021

Curriculum: OOP, Memory Management, Concurrency

Udacity Sensor Fusion Nanodegree Program

Graduated March 2020

Curriculum: Lidar, Radar, Camera, Kalman Filters

SKILLS

Spoken Languages:

English (Fluent), Burmese (Native)

Programming Languages:

C++, Python, Matlab, Javascript

Tools and Technologies: ROS/ROS2, DDS, Qt, CMake, LATEX, Bash/Shell, Linux, Git, Jira, Confluence

HONORS AND AWARDS

- Honorable Mention by Aung San Suu Kyi, the State Counselor of the Republic of the Union of Myanmar, during the 43rd Singapore Lecture, 2018, recognized for achieving 6th place, the top among ASEAN countries in the World Robotics Competition
- Certificate of Honor Award, Ministry of Education Myanmar, recognition for achieving world rank 6th in the First Global Robotics Competition, 2017
- Certificate of Excellence Award, International FIRST Committee Association, recognized for outstanding representation of Team Myanmar and excellence in the Inaugural 2017 FIRST Global Challenge in Washington, DC
- Best Presenter Award, Autonomy Week 2022, LionsBot International Pte Ltd, Singapore
- Senior Championship Award, Myanmar STEM Competition, 2018-2019

PROFESSIONAL ACTIVITIES

Served/ing as a reviewer for

- Journals
 - IEEE Robotics and Automation Letters (RA-L)
 - IEEE Transactions on Automation Science and Engineering (T-ASE)
- Conferences
 - IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)

INVITED TALKS/WORKSHOPS

- Mar. 2024 “Robotics TechTalk”, Invited talk, American Center Yangon, Myanmar.
- Dec. 2019 “Mobile Robot Kinematics”, Invited workshop, Laboratory of Robotics and AI (LORA), Yangon Technological University, Myanmar.
- Jul. 2019 “Engineering and Robotics”, Invited talk, Gakken Classroom Education Seminar, Myanmar.
- Feb. 2019 “Python Programming for beginners”, Invited workshop, MakerFest Myanmar.
- Jul. 2018 “Introduction to Python Programming”, Invited workshop, Barcamp TU Hinthada, Myanmar.

PUBLICATIONS

Phone Thiha Kyaw, Anh Vu Le, Lim Yi, Prabakaran Veerajagadheswar, Mohan Rajesh Elara, Dinh Tung Vo, Minh Bui Vu, *Greedy Heuristics for Sampling-based Motion Planning in High-Dimensional State Spaces*, arXiv preprint, 2024 [\[Link\]](#).

Phone Thiha Kyaw, Anh Vu Le, Prabakaran Veerajagadheswar, Mohan Rajesh Elara, Theint Theint Thu, Nguyen Huu Khanh Nhan, Phan Van Duc, Minh Bui Vu, *Energy Efficient Path Planning of Reconfigurable Robots in Complex Environments*, IEEE Transactions on Robotics, 2021 [\[Link\]](#).

Phone Thiha Kyaw, Aung Paing, Theint Theint Thu, Mohan Rajesh Elara, Anh Vu Le, Prabakaran Veerajagadheswar, *Coverage Path Planning for Decomposition Reconfigurable Grid-Maps Using Deep Reinforcement Learning Based Travelling Salesman Problem*, IEEE Access, 2020.

Anh Vu Le, **Phone Thiha Kyaw**, Mohan Rajesh Elara, Sai Htet Moe Swe, Ashiwin Rajendran, Kamalesh Boopathi, Nguyen Huu Khanh Nhan, *Autonomous Floor and Staircase Cleaning Framework by Reconfigurable sTetro Robot with Perception Sensors*, Journal of Intelligent & Robotic Systems, 2020.

Anh Vu Le, **Phone Thiha Kyaw**, Prabakaran Veerajagadheswar, MA Viraj J Muthugala, Mohan Rajesh Elara, Madhu Kumar, Nguyen Huu Khanh Nhan, *Reinforcement learning-based optimal complete water-blasting for autonomous ship hull corrosion cleaning system*, Ocean Engineering, 2021.

Prabakaran Veerajagadheswar, Anh Vu Le, **Phone Thiha Kyaw**, Mohan Rajesh Elara, Aung Paing, *An Autonomous Descending-Stair Cleaning Robot with RGB-D based Detection, Approaching, and Area coverage Process*, International Conference on Intelligent Robots and Systems (IROS), 2022.

Veerajagadheswar Prabakaran, Anh Vu Le, **Phone Thiha Kyaw**, Prathap Kandasamy, Aung Paing, Rajesh Elara Mohan, *sTetro-D: A deep learning based autonomous descending-stair cleaning robot*, Engineering Applications of Artificial Intelligence, 2023.

Anh Vu Le, Prabakaran Veerajagadheswar, **Phone Thiha Kyaw**, Mohan Rajesh Elara, Nguyen Huu Khanh Nhan, *Coverage Path Planning Using Reinforcement Learning-Based TSP for hTetran—A Polyabolo-Inspired Self-Reconfigurable Tiling Robot*, Sensors, 2021.

Anh Vu Le, Prabakaran Veerajagadheswar, **Phone Thiha Kyaw**, MA Viraj J Muthugala, Mohan Rajesh Elara, Madhu Kuma, Nguyen Huu Khanh Nhan, *Towards optimal hydro-blasting in reconfigurable climbing system for corroded ship hull cleaning and maintenance*, Expert Systems with Applications, 2021.

Anh Vu Le, Rizuwana Parween, **Phone Thiha Kyaw**, Rajesh Elara Mohan, Tran Hoang Quang Minh, Charan Satya Chandra Sairam Borusu, *Reinforcement Learning-Based Energy-Aware Area Coverage for Reconfigurable hRombo Tiling Robot*, IEEE Access, 2020.

Veerajagadheswar Prabakaran, Anh Vu Le, **Phone Thiha Kyaw**, Rajesh Elara Mohan, Prathap Kandasamy, Tan Nhat Nguyen, Madhukumar Kannan, *Hornbill: A Self-Evaluating Hydro-Blasting Reconfigurable Robot for Ship Hull Maintenance*, IEEE Access, 2020.