NARATHIP RODWARNA

nrodwarna@gmail.com | (917) 756-4639 | linkedin.com/in/narathip-rodwarna | narathipr.github.io

EDU CATION

University of Illinois Urbana-Champaign Illinois, USA
Master of Engineering in Autonomy and Robotics January 2023 – August 2024 (Expected)

- Coursework: Autonomous Vehicle System Engineering, Computer Vision, Introduction to Robotics, Principles of Safe Autonomy, Artificial Intelligence, Deep Learning, and Natural Language Processing

Chulalongkorn University Bangkok, Thailand
Bachelor of Engineering in Mechanical Engineering May 2011 – July 2015

- Coursework: Computer Programming, Mechanics, Thermodynamics, Fluid, Ship Design & Building
- Activities: Engineering Student Committee, Orientation Camp Organizer, Voluntary Camps

SKILLS & TRAININGS

Programming Languages: C++, Java, Python
Related Software and Frameworks: PyTorch, TensorFlow, OpenCV, ROS, Docker
Spoken Languages: Thai, English, Japanese
Training: Supervised learning, Unsupervised learning, Advanced learning algorithms by DeepLearning.AI

PROFESSIONAL EXPERIENCE

Bangkok Mass Transit System Public Company Limited Bangkok, Thailand
Rolling Stock Planning Engineer January 2020 – September 2021

- Managed maintenance tasks and resources effectively through SAP software, ensuring high reliability and availability in rail transport operations with fewer than one delay case per month
- Demonstrated team management skills by effectively leading and coordinating maintenance teams to achieve operational goals

Toyota Daihatsu Engineering & Manufacturing Company Limited Samut Prakan, Thailand
Senior Engineer June 2015 - June 2019

- Collaborated with local and international designers to develop acoustic performance improvement packages in the design and evaluation process, contributing to the success of the Toyota Corolla Cross in 2021, which achieved a 35% market share within the first twelve months of its launch
- Conducted Root Cause Analysis and Problem Solving to identify and address the underlying reasons for technical issues in the current market
- Applied the principle of value engineering and innovative methods to enhance operational efficiency. Achieved an annual reduction of approximately $1.89 million in acoustical material costs through performance optimization and the implementation of cost-effective materials

RELEVANT PROJECTS

F1tenth Line Following and Obstacle Avoidance October 2023 – December 2023

- Designed line detection and line following algorithms utilizing computer vision techniques for precise line detection on a 1/10th scale autonomous racing car
- Designed and optimized a Proportional-Integral-Derivative controller (PID) for optimal navigation; integrated LiDAR to enable obstacle avoidance and responsive braking

A Comparative Analysis of Distracted Driver Detection October 2023 – December 2023

- Designed and evaluated a Convolutional Neural Network (CNN) from scratch and compared it with a transfer learning model, achieving a peak accuracy of 97.9%

Vehicle Control and Localization August 2023 – November 2023

- Executed lane detection algorithm with image thresholding and lane fitting
- Implemented vehicle lateral controller using pure pursuit with lookahead point estimation
- Implemented particle filtering for indoor vehicle localization

Mask R-CNN for Pulmonary Embolism Detection January 2023 – May 2023

- Implemented Mask Region-based Convolutional Neural Network(Mask R-CNN) for object instance segmentation on CT scan images to identify pulmonary embolism (PE), achieving AP50 of 80