Experienced Robotics Engineer with a demonstrated history of working in the machinery industry. Skilled in Robotics Programming and Robotics System Design. Enthusiastic Robotics Engineer eager to contribute to academic fields such as motion planning and control for industrial robots; reinforcement learning and deep learning in complex manipulation tasks.

Work History

2018-07 - Current

Robotics Engineer (Founding Engineer)

Eureka Robotics, Singapore, Singapore

- Design and implement various reliable and high-performance motion planning and control algorithms for robot manipulation tasks
- Design, integration and testing robotic systems

2016-07 - 2016-12

Production Engineer at Jurong Lubricant Plant

ExxonMobil Asia Pacific Pte. Ltd , Singapore, Singapore

- Studied inefficiencies of pipeline system and control system in In-line Blending Unit for debottlenecking opportunities
- Developed and implemented alternative blending processes to alleviate constraints within In-Line Blender of Lubricant
- Optimized product flow within plant by assessing the most efficient logistic models

Education

2014-08 - 2018-06

Bachelor in Mechanical Engineering: Robotics And Mechatronics

Nanyang Technological University - NTU - Singapore

- Graduate with honours (Highest Distinction)
- CGPA: 4.71/5.00

Academic Experience

- **Final Year Project** Aug 2017 - Jun 2018

Project Title: "Robot force control for Airbus aircraft inspection"

- Designed and fabricated a special mechanical tool allowing the robot manipulator to apply an ultrasonic probe appropriately on the surfaces of aircraft wings
- Developed and implemented algorithm in force control by

Xuan Hien Bui

Robotics Engineer

Contact

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Skills

- Motion planning and control
- Familiarization with industrial manipulators
- Robotic system design and integration

Software

- Robotic Operating System (ROS)
- Motion planning software (OpenRAVE)
- Robotic simulation software Gazebo
- Python
- C/C++
- Software development tools (Git/Linux/Docker)
- Full stack framework for web

using Deep Reinforcement Learning
- Tested and demonstrated the algorithm on the mock-up wings and the real aircraft wings

- **Research Assistant at Robotic Research Centre** Jan – Apr 2017

Project Title: "Motion Planning and Force Control for Industrial Robot"
- Designed programs for controlling 6 DOF robot arm Denso to perform several difficult tasks such as object manipulation or peg-in-hole
- Contributed to the content of an open-source introduction course in robotics (Force Control section - https://osrobotics.org/osr/)

- **Undergraduate Research Experience on Campus** Aug 2015 – Jun 2016

Project Title: "Cyborg Insect: Flight and Walking Control"
- Studied legged locomotion of the small beetles Zophobas under neurostimulation
- Designed the flight and walking control system which consists of a miniature backpack of electronics worn by "cyborg beetles", a controller and a wireless communication module

Accomplishments

- Gold Medal at **World Robot Olympiad – Advanced Robotics** in Singapore Sep 2016
- Top 25 at **World Robot Olympiad – Advanced Robotics** in India Nov 2016
- Bronze Medal at **the 43rd International Physics Olympiad** in Estonia 2012
- Bronze Medal at **the 13rd Asian Physics Olympiad** in India May 2012

Publications

- **An Ultra-Lightweight and Living Legged Robot**

Tat Thang Vo Doan, Melvin Y.W. Tan, Xuan Hien Bui, and Hirotaka Sato
Soft Robotics Journal 1 Feb 2018

development (React)

CAD software (SolidWorks/FreeCAD)

Languages

English

Vietnamese (Native)