# THOMAS STEPHEN FELIX

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An ambitious roboticist seeking collaboration with like-minded individuals in inspiring groups, forums, companies, and institutions focused on control and automation.

## EXPERIENCE

### ROBOTICS SOFTWARE ENGINEER

Eureka Robotics | Singapore, SG

2022 - 2024

Developed and integrated a Robotic Automation system to automate tasks requiring high accuracy and agility. Utilized C++ drivers and a Python client to seamlessly integrate robotic arms (Yamaha, ABB, KUKA, Mitsubishi), grippers, and sliders. Employed Python frameworks, including PyQT and Dataclasses, for software development, and unit testing to ensure feature reliability. Led CI/CD pipeline development using Jenkins, Python, and Docker, and gained expertise in vendor-specific software such as ABB's RobotStudio and KUKA's Sunrise Workbench.

### JUNIOR EMBEDDED SOFTWARE ENGINEER

Robert Bosch Security Solutions Pte Ltd | Singapore, SG

2021 - 2022

Led the integration of an Access Control System (ACS) with a facial recognition vendor, utilizing TCP/IP socket connections in a C++ and Linux (RedHat) environment for high-level interfacing. Managed interfacing with fingerprint and other modules using UART. Maintained existing components written in Assembly and Embedded C for current customers, while developing, testing, and debugging new components in C++ with RTOS to meet the demands of a growing market.

## EDUCATION

### MASTER OF SCIENCE IN ENGINEERING IN ROBOTICS

University of Pennsylvania | Philadelphia, PA

2024 – PRESENT

- GPA 3.9/4.0

### BACHELOR OF ENGINEERING IN COMPUTER ENGINEERING

Nanyang Technological University | Singapore, SG

2017 - 2021

- GPA 4.3/5.0
- Honors (Distinction)
- Specialization: **Artificial Intelligence & High-Performance Computing**
- *Relevant Coursework:* Embedded Programming | Machine Learning | Computer Vision | Natural Language Processing | Algorithms | Advanced Topics in Algorithms | Sensors, Interfacing, and control | Digital System Design | Object Oriented Design & Programming | Digital Signal Processing | Data Structures | Digital Communications | Circuits & Signal Analysis

# ONLINE CERTIFICATIONS

**ROS - UDEMY**
- ROS For Beginners (ROS Noetic, Melodic, Kinetic)
- ROS for Beginners: Basics, Motion, and OpenCV
- ROS for Beginners II: Localization, Navigation and SLAM

**ALGORITHMS SPECIALIZATION BY STANFORD ONLINE - COURSERA**
- Greedy Algorithms, Minimum Spanning Trees, and Dynamic Programming
- Divide and Conquer, Sorting and Searching, and Randomized Algorithms
- Graph Search, Shortest Paths, and Data Structures
- Shortest Paths Revisited, NP-Complete Problems and What To Do About Them

**ROBOTICS SPECIALIZATION BY UNIVERSITY OF PENNSYLVANIA - COURSERA**
- Robotics: Aerial Robotics
- Robotics: Computational Motion Planning
- Robotics: Mobility
- Robotics: Estimation and Planning
- Robotics: Perception
- Robotics: Capstone

# SKILLS

**Programming Languages:** Embedded C, C++, Python, Assembly, PowerShell, Bash, Jenkins
**Software/Firmware IDE:** Visual Studio Code, PyCharm, Keil µVision, Code Composer Studio
**Frameworks:** Flutter, Firebase, Selenium, Appium, PyTest, RTOS, ROS, PyQT, Docker
**Operating Systems:** Windows and Linux
**Languages:** English, French (Spoken), Arabic (Written), Mandarin (Basic)

# AWARDS & ACHIEVEMENTS

- NTU Science & Technology Scholarship | 2017
- Outstanding Achievement Award by Council of CBSE affiliated Schools in Gulf Region | 2017
- Gold Medal in Mathematics for National Talent Search Examination | 2015