

THOMAS STEPHEN FELIX

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Analytical, Determined and Team-Oriented. Passionate **Computer Engineering**, Bachelor of Engineering at NTU, with a commitment to developing innovative and creative solutions. Having come across a combination of hardware and software projects and gained critical thinking abilities, better communication, and most importantly time management. In search for a job in **Robotics** and relevant fields. Eager to bring value to a quality-focused and collaborative team.

Education

Nanyang Technological University (NTU) | Singapore **Aug 2017 – May 2021**

School of Computer Science and Engineering (SCSE)

CGPA: 4.25/5.0

- Bachelors in **Computer Engineering**
- Nanyang Technological University Science and Technology Scholar | 2017- 2021
- Honors (Distinction)
- Achieved Distinction in
 - Digital Signal Processing
 - Data Structures
 - Digital Communications
- **Specialization:** Artificial Intelligence & High-Performance Computing
- **Relevant Coursework:** Embedded Programming, Machine Learning, Computer Vision, Advanced Topics in Algorithms, Neural Network & Deep Learning, Software Engineering

Professional Experience

Robert Bosch Security Solutions Pte Ltd, Singapore

July 2021 — Present

Junior Embedded Software Engineer

Product: Access Control System (ACS)

- Integration project with Facial Recognition vendor to facilitate High-Level interfacing using TCP/IP socket connections in C++ with Linux (RedHat) environment.
- Interfacing with Fingerprint and other modules using UART.
- Maintain components written in Assembly and Embedded C for existing customers.
- Develop, Test and Debug new components written in C++ with RTOS for growing market.

Internships

Robert Bosch (South East Asia) Pte Ltd, Singapore

January 2020 — August 2020

Software Engineer

- Implement automation test scripts using python frameworks (PyTest, Selenium and Appium) to test accuracy, and functionality of system from a user's perspective.
- Utilized Windows PowerShell, both as a command line and a scripting language to execute and maintain scripts in the implementation environment.
- Design test cases which would allow the team to recognize and rectify software vulnerabilities.

Academic Projects

Nanyang Technological University

Final Year Project

July 2020 – July 2021

Title: Image recognition on Embedded GPU Board

- Investigate and apply the use of CUDA C to take advantage of on-board GPU of a Jetson Nano to improve performance of convolutional kernels in CNNs by using parallel threading architectures.
- Application: With the growing demand for computer vision in autonomous vehicles for real-time object detection, a need to improve response time of convolutional neural networks.

Undergraduate Research Experience on Campus (URECA)

Aug 2019 – July 2020

Title: Music from the air – Digital Theremin

- Design user-friendly interface and cost-efficient platform to provide access to the first electronic instrument “Theremin” with C# programming on Visual Studio.
- Authored a research paper in collaboration with supervisor based on discussions related to findings, implementations, and possible further investigative ideas.

Multi-Disciplinary Project

August 2019 - December 2019

Title: Maze-traversal Arduino bot

- Built a functional Robot in a team of eight that explored a maze and plotted the fastest path
- Additional features included image recognition, auto calibration and obstacle detection
- Led the hardware team to design an Arduino implemented bot responsive to algorithmic commands based on sensor data

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] (In Progress)

- Robotics: Aerial Robotics
- Robotics: Computational Motion Planning
- Robotics: Mobility

Skills

Programming Languages: Embedded C, C++, Python, Assembly, PowerShell, MATLAB

Software/Firmware IDE: Visual Studio Code, PyCharm, Keil μ Vision, Code Composer Studio,

Frameworks: Flutter, Firebase, Selenium, Appium, PyTest, RTOS, ROS

Operating Systems: Windows and Linux

Languages: English, French (Spoken), Arabic (Written), Mandarin (Basic)

Awards & Achievements

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

Hobbies & Interests

- Avid enthusiast of music with 5-year experience in piano theory and music certified by the Associative Board of Royal School of Music
- Active member of Soccer, Squash, Badminton and Cricket community