

Thomas Stephen Felix

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EDUCATION

University of Pennsylvania

Master of Science in Engineering, Robotics, GPA 3.84/4.00

Coursework: Principles of Deep Learning, Learning in Robotics, Modern Convex Optimization

Philadelphia, PA

Aug 2024 – May 2026

Nanyang Technological University

Bachelor of Engineering, Computer Engineering, GPA 4.30/5.00

Specialization: Artificial Intelligence and High-Performance Computing

Singapore, SG

Aug 2017 – May 2021

SKILLS

Programming Languages: C++ (8+ years), Python, MATLAB, CUDA C, Embedded C, Java

Development Tools: Docker, Jenkins, CirrusCI, Github, Bazel, Catkin, PyTest, GoogleTest

Frameworks and Toolkits: ROS, Drake, Linux, RTOS, Bash, PowerShell, (Introductory) JAX, IsaacGym, PyTorch

EXPERIENCE

Dynamic Autonomy and Intelligent Robotics Lab

Graduate Research Assistant

- Led the migration of C3; a multi-contact MPC algorithm into a standalone library, enhancing modularity and reusability for collaborative research
- Developed a modular control framework in Drake, utilizing custom URDFs for physics-accurate simulation, UR & Franka Cartesian pose generation, LCM messaging integration, and MPC/OSC trajectory handling.
- Executed low-level impedance control implementation and full hardware integration for a NIST board application, successfully establishing reliable interface with a SpaceMouse input device for teleoperation of bi-manual setup.

Philadelphia, PA

May 2025 – Present

Eureka Robotics

Robotics Software Engineer

- Spearheaded hardware integration, tripling the number of integrated devices including cameras, sensors, end-effectors, and robotic arms to enhance system capability and scalability
- Engineered a robust CI/CD pipeline, automating code formatting, testing, and multi-platform packaging for NVIDIA hardware to streamline the development workflow
- Deployed end-to-end ML-driven pick-and-place pipelines, performing robot-camera calibration and dynamic motion planning to meet high-throughput production deadlines.

Singapore, SG

Aug 2022 – Aug 2024

Robert Bosch Security Solutions Pte Ltd

Junior Embedded Software Engineer

- Sustained legacy controllers in Assembly and Embedded C, ensuring system reliability and continuity
- Designed and validated new C++ components with RTOS, expanding product capabilities for evolving market needs

Singapore, SG

Aug 2021 – Aug 2022

PUBLICATION

Hien, B., Yufeyang, G., Haoran, Y., Eric, C., Siddhant, M., **Thomas Stephen Felix**, Brian, A., Bibit, B., and Michael Posa. "Push Anything: Single- and Multi-Object Pushing From First Sight with Contact-Implicit MPC." *ICRA*, 2025.

PROJECTS

Quadrotor Racing using Reinforcement Learning

Physical Intelligence

Philadelphia, PA

Mar 2025 – May 2025

Balance 3D Inverted Pendulum on Quadrotor using MPC and Direct Collocation

Control and Optimization with Applications in Robotics

Philadelphia, PA

Oct 2024 – Dec 2024

ONLINE CERTIFICATIONS

Algorithms Specialization, Stanford Online

2022

Robotics Specialization, University of Pennsylvania

2023