

# Thomas Stephen Felix

Philadelphia, PA | (445) 900-8432 | stfelix@seas.upenn.edu  
linkedin.com/in/thomasstephenfelix | tinyurl.com/stephentomasfelix

## EDUCATION

---

### University of Pennsylvania

*Master of Science in Engineering, Robotics, GPA 3.85/4.00*

*Coursework: Principles of Deep Learning, Physical Intelligence, 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, MuJoCo, PyTorch, PyBind, PyQt, Linux, RTOS, Bash, Powershell

## EXPERIENCE

---

### Dynamic Autonomy and Intelligent Robotics Lab

*Graduate Research Assistant*

Philadelphia, PA

*May 2025 – Present*

- Led the migration of C3; a multi-contact MPC algorithm into a standalone library, enhancing modularity and reusability for collaborative research
- Applied the new library to implement complex hybrid contact control examples to validate algorithm performance
- 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.

### Eureka Robotics

*Robotics Software Engineer*

Singapore, SG

*Aug 2022 – Aug 2024*

- Delivered comprehensive machine-learning-based pick-and-place robotics solutions under demanding deadlines.
- 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

### Robert Bosch Security Solutions Pte Ltd

*Junior Embedded Software Engineer*

Singapore, SG

*Aug 2021 – Aug 2022*

- 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

## PUBLICATION

---

Hien B., Yufei yang 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

## PROJECTS

---

Feasible Robot Trajectory Generator using PPO, TD3 and Behavior Cloning

*Learning in Robotics*

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