Mayank Sewlia

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Citizenship: Indian

EDUCATION

PhD in Electrical Engineering
KTH Royal Institute of Technology, Stockholm, Sweden, expected March 2025
Tentative Thesis: Control of Multi-robot Systems Under High-level Specifications
Advisors: Prof. Dimos V. Dimarogonas and Prof. Christos K. Verginis

Master of Science, Aerospace Engineering
Technion-Israel Institute of Technology, Haifa, Israel, graduated June 2020
Thesis: Distributed Event-Triggered Control for Multi-Agent Systems with Second-Order Dynamics
Advisor: Prof. Daniel Zelazo

Bachelor of Technology, Aerospace Engineering
Alliance University, Bengaluru, India, graduated June 2017
Thesis: Spacecraft Trajectory Optimization using Evolutionary Algorithms
Advisor: Prof. Feroz Ahmed

JOURNALS

- Sewlia, M., Verginis, C.K. and Dimarogonas, D.V., 2023. MAPS^2: Multi-Robot Anytime Motion Planning under Signal Temporal Logic Specifications. [*submitted*].
- Chen, F., Sewlia, M. and Dimarogonas, D.V., 2024. Cooperative control of heterogeneous multi-agent systems under spatiotemporal constraints. Annual Reviews in Control, 57, p.100946.
- Sewlia, M., Verginis, C.K. and Dimarogonas, D.V., 2022. Cooperative Object Manipulation Under Signal Temporal Logic Tasks and Uncertain Dynamics. *IEEE Robotics and Automation Letters*, 7(4), pp.11561-11568.
- Sewlia, M. and Zelazo, D. Bearing-Based Formation Stabilization Using Event-Triggered Control. *International Journal of Robust and Nonlinear Control, 2024; 1-13.*

CONFERENCES

- Wong, R. C. Y, Sewlia, M., Wiltz, A., and Dimarogonas, D. V. "Generating and Optimizing Topologically Distinct Guesses for Mobile Manipulator Path Planning". [Submitted ICRA 2025]
- Sewlia, M., Verginis, C. K., and Dimarogonas, D. V. Leader-Follower Cooperative Manipulation Under Spatio-Temporal Constraints[Accepted IROS 2024]
- Sewlia, M., Verginis, C. K., and Dimarogonas, D. V. "Cooperative Sampling-Based Motion Planning under Signal Temporal Logic Specifications". *In 2023, American Control Conference (ACC), 2697-2702. IEEE.*
- Sewlia, M. and Zelazo, D. "Distributed Event-Based Control for Second-Order Multi-Agent Systems. "*In 2019, 27th Mediterranean Conference on Control and Automation (MED), 310-315. IEEE.*

COURSES TAUGHT AND SUPERVISION

- Automatic Control Course EL1020, Bachelors level, KTH, 7.5 ECTS.
- Control Theory and Practice - Advanced Course EL2520, Masters level, KTH, 7.5 ECTS.
- Masters thesis supervision (jointly with Ericsson Research): Hampus Carlens: *Manipulation on the move for pick and place tasks*.
- Masters thesis supervision (jointly with Adrian Wiltz): Rufus Wong: *Motion Planning of Redundant Manipulators*.
- Masters thesis supervision: Sara Gomiero: *Sampling-based synthesis of controllers for coupled agents under Signal Temporal Logic specifications*.

LEADERSHIP AND EXTRA-CURRICULAR

- (Jan 2022 - November 2023) I served as the Vice-President of the KTH Rowing board: where I coordinated beginner courses each semester, managed boat logistics, and represented KTH in local and national competitions.
- (Dec 2021 - June 2022) Served as a Board Member and *Council Coordinator* for the KTH PhD Chapter, involving liaising with all five schools at KTH and advocating for enhanced PhD-level courses.
- (Oct 2015 - June 2017) Co-founded *Quasor Rocketry LLP*, a model rocketry startup at Alliance University.

PROJECT WORK

- *Design and FE Analysis of Electrical Harness Connector Support System*, ISRO Satellite Center, Indian Space Research Organization, Bengaluru, 2017.
- *Demonstrator Model for Supersonic Wind Tunnel*, Design for Additive Manufacturing Challenge, Additive Industries, The Netherlands, 2017.
- *Structural Analysis of Rear Engine Mount for Advanced Light Helicopter*, Helicopter Division, Hindustan Aeronautics Limited, Bengaluru, 2016.

ACADEMIC ACHIEVEMENTS

- Recipient of *MHRD Scholarship for Academic Excellence* from 2013-2017.
- Department graduating rank of 3, Class of 2017, Alliance University.
- Passed 12th grade with 92.8% and college *Biology* topper.
- Passed 10th grade with 94.7% and school *Mathematics* topper.

CO-CURRICULAR ACTIVITIES

Member of MENSA Sweden.
Attended *Summer School of Engineering and Sciences*, Summer 2017, Technion.
Volunteered at *Team Krishna*, Global Learning XPRIZE.
Volunteered at CSR Initiative, Alliance University, Bengaluru.
Flight Laboratory Training, IIT Kanpur, Kanpur.
Presented and attended *59th Congress of ISTAM*, December 2014.
Finalists *ROBO-ZEST 2014*, IIT Bombay, Mumbai.

PROGRAMMING SKILLS AND TECHNOLOGIES

Linux, Python, ROS, PyDrake, MATLAB.