Tejaswi K. C.

Contact

Address: Flight Dynamics and Control Lab,
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Interests: Aerospace Engineering; Robotics; Modeling, Control and Learning

Position: **Postdoctoral Associate** : Open Hybrid Dynamical Systems
Establish a foundation for significant generalization capacity and computation efficiency to handle non-trivial and non-conventional hybrid systems.

Education

Dec 2023 **The George Washington University**, Washington D.C.
Sep 2019 PhD in Mechanical and Aerospace Engineering
Specialization: *Robotics - Mechatronics and Controls* GPA: 3.9 / 4
Thesis: *Data-Driven Controls of a Flapping Wing UAV Inspired by Monarch Butterfly*
Advisor: Taeyoung Lee

Jun 2019 **Indian Institute of Technology Bombay**, India
Jul 2014 Bachelor and Master of Technology in Aerospace Engineering Minor: Physics
`Institute Silver Medalist` GPA: 9.52 / 10
Master's Thesis : *Lyapunov-like Functions for Attitude Control via Feedback Integrators*
Advisors : Srikant Sukumar & Ravi Banavar

Publications

- Tejaswi K. C., and Taeyoung Lee, *Variational Integrators for Stochastic Mechanical Hybrid Systems*, `IFAC LHMNC 2024`
- Tejaswi K. C., et al., *Deep Neural Pose Estimation for a Flapping Wing Unmanned Aerial Vehicle with Visual-Inertial Sensor Fusion*, `AIAA SciTech, 2024`.
- Tejaswi K. C., and Srikant Sukumar, *Attitude Control via a Feedback Integrator based Observer*, `IFAC Automatica, 2023`.
- Tejaswi K. C., and Taeyoung Lee, *Constrained Imitation Learning for a Flapping Wing Unmanned Aerial Vehicle*, `IEEE Robotics and Automation Letters, 2022` (presented at IROS 2022).
- Tejaswi K. C., and Taeyoung Lee, *Iterative Supervised Learning for Regression with Constraints*, `IEEE International Conference on Ubiquitous Robots, 2022`.
- Tejaswi K. C., and Taeyoung Lee, *Geometric Optimal Controls for Flapping Wing UAV on a Lie Group*, `IFAC LHMNC 2021`.

- Tejaswi K. C., Madhu K. Sridhar, et al., *Effects of Abdomen Undulation in Energy Consumption and Stability for Monarch Butterfly*, IOP Bioinspiration & Biomimetics, 2021.

- Tejaswi K. C., Chang-kwon Kang and Taeyoung Lee, *Dynamics and Control of a Flapping Wing UAV with Abdomen Undulation*, IEEE American Control Conference, 2021.

Other Skills

Jul 2017	Design and testing of MPC on ARDrone 2.0
May 2017	FMC Lab, Nanyang Technological University, Singapore
Research Assistant:	Conducted tutorial sessions to augment the classroom learning
Teaching Assistant:	process; assisted in conduction and evaluation of examinations.
Computer Languages:	Python, MATLAB, C++, Julia, R.
Relevant Courses:	Computational Fluid Dynamics, Space Flight Mechanics, Engineering Design Optimization, High Performance Scientific Computing, Aerial Robotics, Game Theory, Machine and Reinforcement Learning, Optimal Control and Estimation, Socially Assistive Robotics, Robotics Vision and Perception.
Volunteering:	Life Yessence Academy, Miriam's Kitchen, GWU Math Matters
Interests:	Yoga, sports and outdoor adventures

References

Taeyoung Lee (email)	Professor, The George Washington University
Srikant Sukumar (email)	Professor, Indian Institute of Technology Bombay
Kanishke Gamagedara (email)	Sensor Fusion and Navigation Engineer