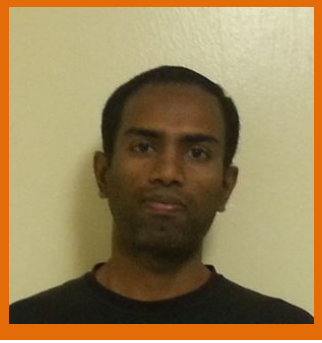
भारतीय प्रौद्योगिकी संस्थान तिरुपति

TIRUPATI

Robotics and Mechatronics



Dr. Yujendra Mitikiri

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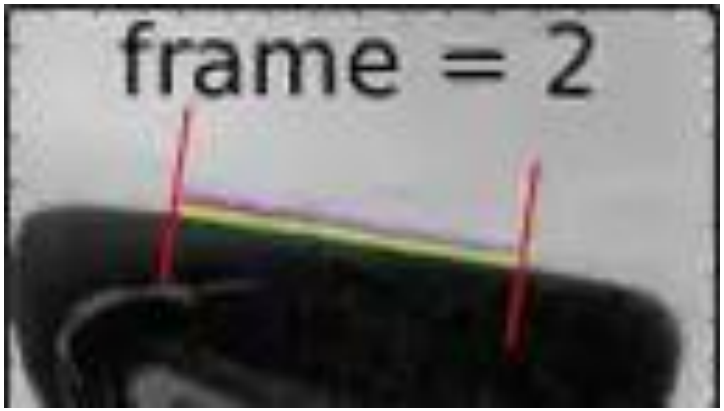
भारतीय प्रौद्योगिकी संस्थान तिरुपति
IIT TIRUPATI

Education

- Ph.D.: University of Florida, Gainesville, 2020.
- Area of specialization: Attitude estimation in autonomous vehicles

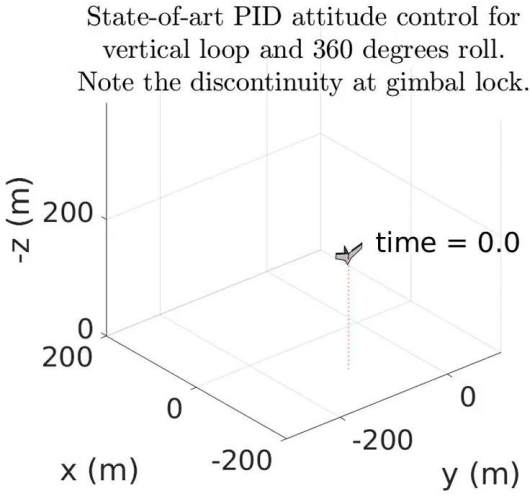
Areas of research

- Autonomous robots and six-DoF vehicles
- Controls
- Analog circuits



Ongoing projects

- Attitude estimation in autonomous vehicles using IMUs and vision (top right video)
- Globally stable attitude control of autonomous vehicles (bottom right video)
- Trajectory Conditioning and Optimization in Redundant Robotic Manipulators



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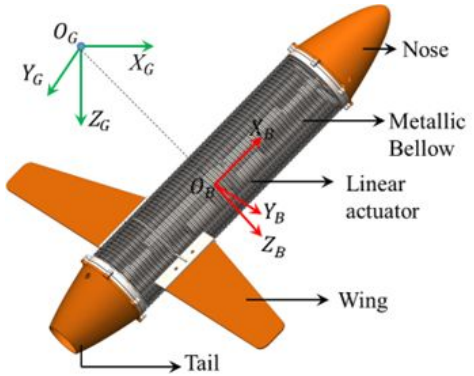
भारतीय प्रौद्योगिकी संस्थान तिरुपति
TIRUPATI

Education

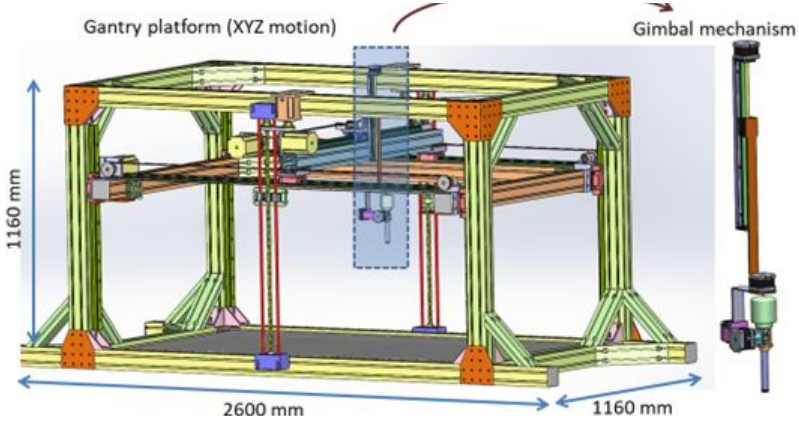
- Ph.D. – IIT Madras, Chennai
- Postdoc - UCLA, Los Angeles, USA
- Area of specialization: Underwater Robotics (PhD), Construction robotics (Postdoc)

Areas of research

- Field and Service robots
  - Underwater robots: Dynamics and control
  - Novel robots for additive manufacturing
  - Collaborative multi-domain robots
- Mechatronics
- Nonlinear controls



RoBuoy: Underwater glider [2]



Construction robot

[1] Thiyagarajan Ranganathan, Vijendra Singh and Asokan Thondiyath, 'Theoretical and Experimental Investigations on the Design of a Hybrid Depth Controller for a Standalone Variable Buoyancy System – vBuoy', IEEE Journal of Oceanic Engineering, Oct 2018

[2]Thiyagarajan Ranganathan, Sundaravalli Aravazhi, Sambit Mishra and Asokan Thondiyath, 'Design and Analysis of a Novel Underwater Glider – RoBuoy', in IEEE International Conference on Robotics and Automation (ICRA'18), Brisbane, QLD, 2018, pp. 2089-2094.

Robotics and Mechatronics : Research Facilities