SHRAVAN TATA RAMALINGASETTY

Post-doctoral fellow

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SUMMARY

Bio-robotics researcher with 6+ years experience in developing neuromechanical simulations to study animal and robotic locomotion. I'm passionate about neural embodiment, robotics, intelligent-systems, open-science, scientific visualization, and computer graphics.

SKILLS

Languages: Python, C, Cython, C++, JAX, PyTorch

Tools: MuJoCo, PyBullet, OpenSim, Blender

Technologies: UNIX systems, Docker, Git

EDUCATION

10/2016 - 01/2022	**École Polytechnique Fédérale de Lausanne, PhD**	Switzerland
	Thesis: *Neuromechanical modeling and simulation of multi-legged terrestrial locomotion*	

08/2014 - 09/2016	**Delft University of Technology, M.Sc, BioRobotics**	Netherlands
	Thesis: *Cerebellum Inspired Computational Models for Robot Control*	

08/2009 - 05/2013	**Manipal Institute of Technology, B.E, Mechatronics Engineering**	India
	Thesis: *Human Motion Analysis using Inertial Sensors*	

EXPERIENCE

04/2022 - present	**Post-doctoral Fellow, Danner Lab**	Drexel University, USA
	Developing experimentally driven neuromechanical simulations to understand the interplay of sensory and central spinal networks during locomotion.	

09/2015 - 11/2015	**Research Intern**	RENESAS Electronics, France
	Using Caffe framework I developed Convolution Neural Networks for pedestrian and road sign detection, leveraging specialized dataset for full-scene semantic labeling to enhance detection accuracy and real-time performance in automotive applications.	

05/2013 - 06/2014	**Junior Research Fellow, Computational Intelligence Lab**	IISc, India
	Developed a motion capture pipeline using wearable inertial sensors to analyze lower-limb human movement, and designed a lower-body exoskeleton to study its impact on assistive motion using biomechanical simulations.	

PROJECTS

04/2022 - present	**Framework for Animal and Robot Modeling and Simulation (FARMS)**	Co-developer
	Co-developing an open-source framework for high-performance, large-scale parallel neuromechanical simulations of animal and robot biomechanics with biological neural networks. Incorporating evolutionary optimization techniques and graphical tools for in-depth simulation analyses.	

09/2015 - 08/2016	**Zebro-Art: When robots meet art**	Software Engineer
	Developed R-Hex robot for dynamic office settings with stair-climbing functionality. Implemented using Raspberry Pi-powered ROS for control, navigation, and SLAM localization based on Lidar, depth cameras.	

PUBLICATIONS

07/2024	**On All Fours: A 3D Framework to Study Closed-loop Control of Quadrupedal Mouse Locomotion**	ALife
	Tata Ramalingasetty S, Markin SN, Lockhart AB, Arreguit J, Shevtsova NA, Ijspeert AJ, Rybak IA, Danner SM	

05/2024	**FARMS: Framework for Animal and Robot Modeling and Simulation**	BioArxiv
	Arreguit J*, **Tata Ramalingasetty S***, Ijspeert AJ (* equal contributors)	

05/2022	**NeuroMechFly, a neuromechanical model of adult Drosophila melanogaster**	Nature Methods
	Lobato-Rios V, **Tata Ramalingasetty S**, Özdil PG, Arreguit J, Ijspeert AJ, Ramdya P	

12/2021	**A whole-body musculoskeletal model of the mouse**	IEEE Access
	Tata Ramalingasetty S, Danner SM, Arreguit J, Markin SN, Rodarie D, Kathe C, Courtine G, Rybak IA, Ijspeert AJ	

07/2020	**Spatiotemporal Maps of Proprioceptive Inputs to the Cervical Spinal Cord During Three-Dimensional Reaching and Grasping**	IEEE TNSRE
	Kibleur P, **Tata Ramalingasetty S**, Greiner N, Conti S, Barra B, Zhuang K, Kaeser M, Ijspeert AJ, Capogrosso M	

07/2020	**Computational modelling of musculoskeletal to predict the human response with exoskeleton suit**	IJBBR
	Padmanabha GA, **Tata Ramalingasetty S**, Vetrivel B, Mukherjee I, Omkar SN, Sivakumar R	