Shravan **Tata Ramalingasetty**

POSTDOCTORAL FELLOW, COMPUTATIONAL NEUROSCIENCE

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Education

EPFL (École Polytechnique Fédérale de Lausanne) *Luasanne, Switzerland*

DOCTORAL STUDENT, BIOROB *Oct. 2016 - Jan, 2022*

- "Neuromechanical modeling and simulation of multi-legged terrestrial locomotion" - **Prof Auke Ijspeert**

TU Delft (Delft University of Technology) - 8.0 (GPA) *Delft, Netherlands*

M.SC IN MECHANICAL ENGINEERING, BIO ROBOTICS *Aug. 2014 - Sept. 2016*

- Master Thesis : "Cerebellum Inspired Computational Models for Robot Control" - **Prof.dr.ir. P.P. Jonker**

MIT (Manipal Institute of Technology) - 9.5 (CGPA) *Manipal, India*

B.E IN MECHATRONICS ENGINEERING *Aug. 2009 - May. 2013*

- Bachelor Thesis : "Human Motion Analysis using Inertial Sensors" - **Dr. S.N. Omkar**

Skills

Programming	C, C++, Python, ROS, MATLAB, LaTeX
Software	Mac OS X, Linux
Simulation tools	MuJoCo, Webots, PyBullet, V-REP, Gazebo, OpenSim

Publications

FARMS: Framework for Animal and Robot Modeling and Simulation *BioArxiv*

ARREGUIT J*, **TATA RAMALINGASETTY S***, IJSPEERT AJ *Sep 2023*

DOI: https://doi.org/10.1101/2023.09.25.559130

NeuroMechFly, a neuromechanical model of adult Drosophila melanogaster *Nature Methods*

LOBATO-RIOS V, **TATA RAMALINGASETTY S**, ÖZDIL PG, ARREGUIT J, IJSPEERT AJ, RAMDYA P *May 2022*

DOI: https://doi.org/10.1038/s41592-022-01466-7

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 *Dec 2021*

DOI: https://doi.org/10.1109/ACCESS.2021.3133078

Spatiotemporal Maps of Proprioceptive Inputs to the Cervical Spinal Cord During Three-Dimensional Reaching and Grasping *IEEE Transactions on Neural Systems and Rehabilitation Engineering*

KIBLEUR P, **TATA RAMALINGASETTY S**, GREINER N, CONTI S, BARRA B, ZHUANG K, KAESER M, IJSPEERT A, CAPOGROSSO M *Jul 2020*

DOI: https://doi.org/10.1109/TNSRE.2020.2986491

Computational modelling of musculoskeletal to predict the human response with exoskeleton suit *International Journal of Biomechatronics and Biomedical Robotics*

PADMANABHA GA, **TATA RAMALINGASETTY S**, VETRIVEL B, MUKHERJEE I, OMKAR SN, SIVAKUMAR R *Jul 2020*

DOI: https://doi.org/10.1504/IJBBR.2020.108441

Experimental and Computational Study on Motor Control and Recovery After Stroke: Toward a Constructive Loop Between Experimental and Virtual Embodied Neuroscience

Frontiers in Systems Neuroscience

Allegra Mascaro AL, Falotico E, Petkoski S, Pasquini M, Vannucci L, Tort-Colet N, Conti E, Resta F, Spalletti C, **Tata Ramalingasetty S**, von Arnim A, Formento E, Angelidis E, Blixhavn CH, Leergaard TB, Caleo M, Destexhe A, Ijspeert A, Micera S, Laschi C, Jirsa V, Gewaltig M-O, Pavone

Jul 2020

DOI: https://doi.org/10.3389/fnsys.2020.00031

Adaptive control for hindlimb locomotion in a simulated mouse through temporal cerebellar learning

NICE: Neuro-inspired Computational Elements

Jensen T, **Tata Ramalingasetty S**, Ijspeert A, Tolu S

Mar 2020

DOI: https://doi.org/10.1145/3381755.3381761

Scale Adaptive Object Tracker with Occlusion Handling

International Journal of Image, Graphics and Signal Processing

Ram Aravind K M, **Tata Ramalingasetty S**, Omkar SN

Jul 2015

DOI: https://doi.org/10.5815/ijigsp.2016.01.03

Wireless Performance Evaluation Of Sun Salutation Using Body Mount Accelerometers.

International Journal of Yoga and Allied Sciences

Tata Ramalingasetty S, Omkar SN

Dec 2014

Awards

2023	**Fellowship**, Edward Jekkal Muscular Dystrophy Research Fellowship	*Philadelphia, USA*
2016	**Cum laude**, This predicate is meant for the fastest students with the highest grades	*TU Delft, Delft*
2013	**Topper**, Medal of Honor from the Dept. of Mechatronics 2009-2013	*MIT, India*
2009	**Scholarship**, MHRD Karnataka State Scholarship for Excellence in 12th	*Bangalore, India*

Experience

DCSC Systems and Controls, TU Delft

Delft, Netherlands

Teaching Assistant <Control Methods for Robotics>

Feb. 2016 - May. 2016

- Design assignments for students to test different control strategies introduced during the course
- Use of MATLAB and VREP interface for simulating and control of robots
- Simulation environment for control of 8 DOF robotic Arm
- Simulation environment for control of R-Hex robots
- Simulation environment for control of Quadrotor race arena
- Assist in evaluation of student exams and assignments

DCSC Systems and Controls, TU Delft

Delft, Netherlands

Software & Electronics <Zebro-Art : When robots meet art >

Sep. 2015 - Aug. 2016

- To design R-Hex robot that can carry a statue in a dynamic office environment
- Raspberry Pi powered ROS framework for control,navigation and localization
- Challenges involve in designing robot that can co-exist in an environment with people in close proximity
- Capability to climb stairs while carrying a statue
- Use of Lidar and Depth cameras for SLAM

RENESAS Electronics Europe GmbH

Paris, France

Trainee <Evaluation of Convolution Neural Networks for Automotive Applications>

Sep. 2015 - Nov. 2015

- Set-Up the Caffe frame work
- Pedestrian detection using Convolution Neural Networks(CNN) based on Daimler dataset
- Adapt network configuration to increase detection rate and also meet real time requirements
- Extend detection framework using HoG based window scanning
- Extend the framework for Road Sign Classification and Detection
- Create data set for full scene semantic labeling
- CNN networks for learning pixel level semantic labeling

Multimedia Computing Group, TU Delft

Delft, Netherlands

RESEARCH ASSISTANT

Jun. 2015 - Aug. 2015

- Set-Up the experimental interface for Image aesthetics and Quality assessment experiment
- Use of psychophysics toolbox in MATLAB for interface design

Computational Intelligence Lab, Indian Institute of Science

Bangalore, India

JUNIOR RESEARCH FELLOW, DEPT. OF AEROSPACE ENGINEERING

May. 2013 - Jul. 2014

- Worked on design and analysis of lower body human exo-skeleton suit using LifeMod software and Inertial Sensors.
- Analysed Human swing phase of walking with exoskeleton using LifeMod and Inertial Sensors.
- Analysis of the dynamic visco-elastic properties of human arm-hand experienced by a martial artist while breaking a brick using lumped parameter model.
- Developed an On board (UDOO-Python) vision based Quadcopter stabilisation using Fuzzy Controller.

Computational Intelligence Lab, Indian Institute of Science

Bangalore, India

TEACHING ASSISTANT <BASICS OF DESIGN AND DEVELOPMENT OF FIXED WING RC PLANES AND QUADCOPTER'S>

Feb. 2014– Apr. 2014

- Use of MultiWii autopilot for RC planes.
- Basics of Flying a Quadcopter.

Computational Intelligence Lab, Indian Institute of Science

Bangalore, India

PROJECT INTERN <HUMAN MOTION ANALYSIS USING INERTIAL SENSORS>, DEPT. OF AEROSPACE ENGINEERING

Dec. 2012 - May. 2013

- Exposure to Inertial measurement units for motion capture.
- Exposure to EEG sensors for capturing muscle activity.
- Digital Signal Processing tools: Short time Fourier Transform, Wigner-Ville Transform, Hilbert Huang Transform.
- Quantification of yoga postures and exercises.

Bosch Pvt. Limited

Bangalore, India

INDUSTRIAL TRAINEE, BOSCH CRDI

Jun. 2012 - Jul. 2012

- Understanding of Bosch production system, which is manifestation of Lean Manufacturing system.
- Understanding the application of Bosch Production systems in the manufacturing of PF pumps (mainly PF 51 and PF 45), exposure to pump's assembly process including testing and calibration.
- Worked on programmable logic controller for automating CRDI systems.
- Trained to operate a 6 DOF, ABB robotic arm.

Extra Activity

BEST (Board of European Students of Technology)

Delft, Netherlands

MEMBER

Feb. 2016 - PRESENT

- Organizational skills for hosting international events like exchange courses
- Work in a multi-national environment

Bangalore Institute of Movement and Research Analysis

Bangalore, India

ATTENDEE

Jan. 2014

- Introduction to 2D & 3D gait analysis from a medical context
- Interaction with leading doctors involved in Movement research

Indian Institute of Technology

Bombay, India

WORKSHOP

Jul. 2012

- Design and Development of a 4-Degree of freedom Haptic controlled robotic arm

Texas Instruments®

Manipal, India

WORKSHOP

Sep, 2012

- Programming MSP430 microcontroller (Assembly and Embedded C programming)