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## Research Interests

Motor learning | Motor rehabilitation | Robotics

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## Education

2012–2017 **Doctor of Philosophy**, *Biosystems Science and Engineering*, Indian Institute of Science, Bangalore, India.

Area of Study *Motor redundancy & Motor Learning*

2007–2010 **Bachelor of Technology**, *Mechanical and Automation Engineering*, Guru Gobind Singh Indraprastha University, Delhi India.

Area of Study *Robotics & Automation*

2002–2005 **Diploma in Engineering**, *Mechanical Engineering*, Board of Technical Education, UP India.

Area of Study *Computer-aided design (CAD)*

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## Research Experience

2012–2017 **Graduate Research Assistant**, *Visuomotor Lab*, Centre for Neuroscience, Indian Institute of Science, Bangalore.

Advisor Prof. Aditya Murthy

Area of Study *Behavioral psychophysics & Motor control*

2012–2017 **Graduate Research Assistant**, *Robotics and Design Lab*, Department of Mechanical Engineering, Indian Institute of Science, Bangalore.

Advisor Prof. Ashitava Ghosal

Area of Study *Robotics & Design*

Jan–Jun 2016 **Visiting Student**, *Movement Disorder Lab*, Department of Neurology, National Institute of Mental Health and Neuroscience, Bangalore, India.

Advisor Prof. Pramod Kumar Pal

Area of Study *Neurological movement disorders & Clinical psychophysics*

2010–2012 **Research Assistant**, *M2D2 Lab*, Department of Mechanical Engineering, Indian Institute of Science, Bangalore.

Advisor Prof. G. K. Ananthasuresh

Area of Study *Robotics & Compliant mechanisms*

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## Peer-Reviewed Journal Publications

Nov 2016 **Puneet Singh**, Sumitash Jana, Ashitava Ghosal and Aditya Murthy, “Exploration of joint redundancy but not task space variability facilitates supervised motor learning”, *Proceedings of the National Academy of Sciences*, 113:50 (2016), pp. 14414–14419.

Feb 2013 **Puneet Singh** and G. K. Ananthasuresh, “A Compact and Compliant External Pipe-crawling Robot”, *IEEE Transactions on Robotics*, 29:1 (2013), pp. 251–260.

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## Peer-Reviewed Conference Proceedings

Dec 1-2 2010 **Puneet Singh** and G. K. Ananthasuresh, “An SMA-actuated, Compact, Compliant Ring-actuator with Uniform Deformation”, *15th National Conference on Machines and Mechanisms (NaCoMM 2011)*, IIT Madras, India.

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## Honors and Awards

- Oct 2014 **International Travel Award**, International Autumn School on Movement Science at Humboldt-Universität zu Berlin, Germany
- Sep 2014 **Third Place in Research Project**, Barcelona Cognition Brain and Technology Summer School at Universitat Pompeu Fabra, Barcelona, Spain
- Sep 2014 **International Travel Award**, Barcelona Cognition Brain and Technology Summer School at Universitat Pompeu Fabra, Barcelona, Spain
- Sep 2008 **First Place in Robotic Competition**, Innovision 2008, at Netaji Subhas Institute of Technology, Delhi, India

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## Teaching Experience

- Jul 2016 **Tutorial and Hands-on**, Motor Learning in Forcefield and Visuomotor perturbation task, 4th Bangalore Cognition Workshop, Centre for Neuroscience, Indian Institute of Science, Bangalore
- Aug 2015 **Guest Lecture and Tutorial**, Dynamic Analysis of Multibody Systems in Adams, Centre for Product Design and Manufacturing, Indian Institute of Science, Bangalore
- Aug 2014 **Teaching Assistant and Guest Lectures**, Biology and Physiology for Engineers, Biosystems Science and Engineering, Indian Institute of Science, Bangalore

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## Supervision of Interns

- May–Jul 2015 **James Olson**, Signal Processing of Surface Electromyography, Department of Biomedical Engineering, University of Wisconsin-Madison, US
- May–Jul 2015 **Vaibhav Thakur**, Unique quantification of Error in Kinematic and Dynamic Task, Indian Institute of Science Education and Research, Pune, India

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## Proficiency

- Programming Matlab, Mathematica
- Mechanical MSC Adams (Dynamics), Solidworks (CAD), Abaqus, Comsol (FEA)
- Hardware NI Labview, Arduino

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## Professional Service

- Jun 2012 **Student Reviewer**, *4th IEEE RAS & EMBS International Conference on Biomedical Robotics and Biomechatronics*, Roma, Italy.
- Mar 2009 **Head Convener**, *Prarambh 2009 (Technical Festival)*, sponsored by IEEE and SAE student chapters.

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## References

- Prof. Aditya Murthy,  
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