

# Ravi P. Joshi

PH.D. CANDIDATE · ROBOTICIST · ML ENTHUSIAST

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## Publications

### JOURNAL ARTICLES [3]

#### A Framework for Robotic Clothing Assistance by Imitation Learning

Ravi Prakash Joshi, Nishanth Koganti, Tomohiro Shibata

*Advanced Robotics* 0.0 (2019) pp. 1–19. Taylor & Francis

DOI: 10.1080/01691864.2019.1636715

2019

#### Calibration and statistical techniques for building an interactive screen for learning of alphabets by children

Riby Abraham Bobby, Ravi Prakash Joshi, Subir Kumar Saha, Takafumi Matsumaru, Pratyusha Sharma, Siddhartha Jaitly

*International Journal of Advanced Robotic Systems* 14.3 (2017) p. 1729881417703939. SAGE Publications London, UK

DOI: 10.1177/1729881417703939

2017

#### Robot kinematics made easy using RoboAnalyzer software

Ratan S. Othayoth, Rajeevlochana G. Chittawadigi, Ravi P. Joshi, Subir K. Saha

*Computer Applications in Engineering Education* 25.5 (2017) pp. 669–680. Wiley Online Library

DOI: 10.1002/cae.21828

2017

### CONFERENCE PROCEEDINGS [11]

#### Mouse Anatomical Cardinal Planes and Axes Towards Augmentation for Behavior Analysis

Salvador Blanco Negrete, Ravi Prakash Joshi, Rollyn Labuguen, Jumpei Matsumoto, Tomohiro Shibata

*Joint 7th International Conference on Informatics, Electronics Vision (ICIEV) and 2nd International Conference on Imaging, Vision Pattern Recognition (icIVPR)*

DOI: 10.1109/ICIEV.2018.8641000

Kitakyushu, Japan

2018

#### Robotic cloth manipulation for Clothing Assistance task using Dynamic Movement Primitives

Ravi Prakash Joshi, Nishanth Koganti, Tomohiro Shibata

*Proceedings of the Conference on Advances in Robotics*

DOI: 10.1145/3132446.3134878

New Delhi, India

2017

#### Estimating 3D Hand Location for Clothing Assistance Initialization Using Dynamic Movement Primitives

Ravi Prakash Joshi, Rithul Perathara, Rolyn Labuguen, Nishanth Koganti, Tomohiro Shibata

*Proceedings of the 35th Annual Conference of Robotics Society of Japan*

URL: [http://rsj2017.rsj-web.org/RSJ2017\\_pg02.pdf](http://rsj2017.rsj-web.org/RSJ2017_pg02.pdf)

Kawagoe, Japan

2017

#### A Study on Human-Robot Collaboration for Table-setting Task

Krati Saxena, Rollyn Labuguen, Ravi Prakash Joshi, Nishanth Koganti, Shibata Tomohiro

*IEEE International Conference on Robotics and Biomimetics (ROBIO)*

DOI: 10.1109/ROBIO.2017.8324415

Macau, China

2017

#### Cloth Extremity Detection from a Clutter of Clothes using Bayesian GP-LVM

Vishal Gaurav, Nishanth Koganti, Riku Nakata, Ravi Prakash Joshi, Tom Shibata

*International session on Robotics, Mechatronics and Control, Robotics Society of Japan*

URL: [http://rsj2016.rsj-web.org/data/RSJ2016\\_pg.pdf](http://rsj2016.rsj-web.org/data/RSJ2016_pg.pdf)

Kojirakawa, Japan

2016

#### Virtual Experiments for Integrated Teaching and Learning of Robot Mechanics Using RoboAnalyzer

Ratan Sadanand, Ravi P. Joshi, Rajeevlochana G. Chittawadigi, Subir Kumar Saha

*28th International Conference on CAD/CAM, Robotics and Factories of the Future*

ISBN: 978-81-322-2740-3

Kolaghat, India

2016

#### Force Control of Robot Manipulator using Industrial Servo Drives

Arun Dayal Udai, Subir Kumar Saha, Ravi Prakash Joshi, Rattan Sadanand

*International Conference on Evolution in Manufacturing (ICEM)*

ISBN: 978-93-86256-11-9

Ranchi, India

2016

#### SAKSHAR: An Image-projective Desktop Varnamala Trainer (IDVT) for Interactive Learning of Alphabets

Ravi Prakash Joshi, Riby Abraham Bobby, Subir Kumar Saha, Takafumi Matsumaru

*Developing Countries Forum, Robotics and Automation (ICRA), IEEE International Conference on*

URL: <http://icra2015.org/conference/forums/11-conference/37-developing-countries-forum>

Washington, USA

2015

#### Virtual Robots Module: An Effective Visualization Tool for Robotics Toolbox

Ratan Sadanand, Rajeevlochana G. Chittawadigi, Ravi P. Joshi, Subir Kumar Saha

*Proceedings of the Conference on Advances In Robotics*

DOI: 10.1145/2783449.2783475

Goa, India

2015

#### Projectable Interactive Surface Using Microsoft Kinect V2: Recovering Information from Coarse Data to Detect Touch

Pratyusha Sharma, Ravi Prakash Joshi, Riby Abraham Bobby, Subir Kumar Saha, Takafumi Matsumaru

*IEEE/SICE International Symposium on System Integration (SII)*

DOI: 10.1109/SII.2015.7405081

Nagoya, Japan

2015

#### Depth-based Localization for Robotic Peg-in-Tube Assembly

Arun Dayal Udai, Ravi Prakash Joshi, Subir Kumar Saha

*IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)*

DOI: 10.1109/IROS.2015.7353871

Hamburg, Germany

2015

## PRESENTED (UNPUBLISHED) [2]

### Extremity Detection from a Pile of Garments using Bayesian GPLVM

Vishal Gaurav, Nishanth Koganti, Riku Nakata, Ravi Prakash Joshi, Tom Shibata

Workshop on Assistive and Service Robotics in a Human Environment, Intelligent Robots and Systems (IROS), IEEE/RSJ International Conference on

URL: [https://research02.jimu.kyutech.ac.jp/html/100000703\\_knkyu\\_prsn\\_en.html](https://research02.jimu.kyutech.ac.jp/html/100000703_knkyu_prsn_en.html)

Daejeon, Korea

2016

### SAKSHAR: An Image-projective Desktop Varnamala Trainer (IDVT) for Interactive Learning of Alphabets

Ravi Prakash Joshi, Riby Abraham Bobby, Subir Kumar Saha, Takafumi Matsumaru

8th International collaboration Symposium on Information, Production and Systems (ISIPS)

URL: <http://www.waseda.jp/assoc-ics/2014/program.html>

Kitakyushu, Japan

2014

## Experience

### Indian Institute of Technology Delhi

New Delhi, India

SENIOR RESEARCH FELLOW

May 2014 - Aug. 2015

- Worked on the force control of a KUKA robot to perform the task of inserting a peg in a hole.
- Development of RoboAnalyzer software which helps in teaching and learning of robot kinematics and dynamics in an easier and funnier way.

### Indian Institute of Technology Delhi

New Delhi, India

PROJECT STAFF

Feb. 2014 - May 2014

- Involved in a collaborative project "SAKSHAR: An Image-projective Desktop Varnamala Trainer (IDVT) for interactive learning of alphabets".
- The project aims to make primary education more attractive and fun towards the kids.

### Altair Engineering

Bangalore, India

SOFTWARE QA ENGINEER

Jun. 2012 - Jan. 2014

- Successfully performed software testing such as performance, load, and functional testing of Altair Web Portal Framework and Compute Manager, a web-based interface for PBS workload manager.
- Developed a framework for automated testing of REST Services.
- Key person for guaranteeing essential functionality such as licensing of Altair Web Portal Framework.

## Education

### Kyutech (Kyushu Institute of Technology) Wakamatsu

Kitakyushu, Japan

DOCTOR OF PHILOSOPHY IN MACHINE LEARNING IN ROBOTICS

Present

- MAJOR PROJECT: Robotic Clothing Assistance

### Kyutech (Kyushu Institute of Technology) Wakamatsu

Kitakyushu, Japan

MASTER OF ENGINEERING IN MACHINE LEARNING IN ROBOTICS

Sep. 2017

- MAJOR PROJECT: Clothing Assistance using DMP

### IIITDM (Indian Institute of Information Technology Design & Manufacturing) Jabalpur

Madhya Pradesh, India

BACHELOR OF TECHNOLOGY IN COMPUTER SCIENCE & ENGINEERING

Aug. 2012

- MAJOR PROJECT: Data Structure Simulator

### HGSSVMIC (Hargovind Suyal Saraswati Vidya Mandir Inter College) Haldwani

Uttarakhand, India

INTERMEDIATE EXAMINATION

Jun. 2007

- MAJOR SUBJECTS: Maths, Physics and Chemistry

### HGSSVMIC (Hargovind Suyal Saraswati Vidya Mandir Inter College) Haldwani

Uttarakhand, India

HIGH SCHOOL EXAMINATION

Jun. 2005

## Technical Skills

**Commercial Robot Used** Rethink Robotics© Baxter, Toyota© HSR, KUKA Robotics© KR 5

**Programming** C/C++, Python, C#, Embedded C, Java, KUKA Robot Language

**IDE** Microsoft Visual Studio, Eclipse, NetBeans, WinAVR

**Tools/Libraries**  $\LaTeX$ , ROS, ØMQ, PCL, OpenCV, Protocol Buffers, MATLAB

**Web** Drupal, HTML, PHP, JS, JSF

**OS Platform** WINDOWS (XP, 8 and 10), LINUX (Ubuntu)

## Personal Information

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**Date of Birth** August 5, 1990

**Languages** Hindi, English, Japanese (Beginner)

## Honors & Awards

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2017	<b>First prize</b> , HEBI Robotics Hackathon at Kyutech	<i>Japan</i>
2016	<b>Excellent Paper Award</b> , 10th International collaboration Symposium on IPS at Waseda University	<i>Japan</i>
2015	<b>MEXT Scholarship</b> , Ministry of Education, Culture, Sports, Science and Technology of Japan	<i>Japan</i>
2015	<b>Successfully completing Mechanics of Robots</b> , Classroom course by Prof. S. K. Saha, IIT Delhi	<i>India</i>
2015	<b>MOOC on Image Processing</b> , Prof. G. Sapiro, Duke University, USA	<i>India</i>
2012	<b>MOOC on Computer Networks</b> , Prof. N. McKeown, Stanford University, USA	<i>India</i>