

**Adithya Murali**  
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Robotics Institute,  
Carnegie Mellon University

## Education

Carnegie Mellon University, Pittsburgh PA PhD/M.S., The Robotics Institute, School of Computer Science	Present
University of California Berkeley, Berkeley CA B.S., Electrical Engineering & Computer Science (Honors, Phi Beta Kappa) Honors Breadth in Economics Advisors: Ken Goldberg, Pieter Abbeel, Allison Okamura	2012-2015
Raffles Institution (High School & Junior College), Singapore	2006-2011

## Industry Experience

<b>Amazon Web Services</b> , Software Development Engineer, Seattle WA “New initiatives”	2016
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## Research Experience

<b>Berkeley Artificial Intelligence Lab</b> , Research Assistant, Berkeley CA Undergraduate research with Prof. Ken Goldberg and Prof. Pieter Abbeel	2014-2015
<b>Stanford University</b> , CHARM Lab, Stanford CA Collaborative research with Prof. Allison Okamura’s group	2015
<b>Lawrence Berkeley National Lab</b> , Research Assistant, Berkeley CA Undergraduate research with Prof. Ali Javey	2013
<b>A*STAR IMRE</b> , Research Assistant, Singapore A-level H3 Research with Dr. Nikolai Yakovlev	2010-2011
<b>MIT</b> , Rickoid Scholar, Cambridge MA Summer research with Prof. Rebecca Carrier, the CEE Research Science Institute	Summer 2010
<b>Nanyang Technological University</b> , Research Assistant, Singapore Science Mentorship Program with Prof. Sathyan Subbiah	2008-2011

## Awards and Honors

<b>Columbia University</b> , Presidential fellowship for grad school	2016
<b>University of Texas at Austin</b> , Chancellor fellowship for grad school	2016
<b>University of Washington</b> , CSE fellowship for grad school	2016
<b>ICRA 2015</b> , Best Student/Medical Robotics Paper Finalist	2015
<b>ICRA 2015</b> , Best Poster for Workshop on “Shared Frameworks for Medical Robotics”	2015
<b>ICRA 2015</b> , Travel grant to present paper at robotics conference	2015
<b>Cal Alumni Association</b> , The MacBride, and Dolder Family Alumni Scholarship	2014
<b>DAAD/Max-Planck Institute Scholarship</b> , Support for summer research	2014
<b>UC Berkeley</b> , Leslie Lipson Essay Prize	2013
<b>Cal Alumni Association</b> , The Leadership Award	2013
<b>UC Berkeley</b> , Edward Kraft Award (Top Freshman GPA)	2013

<b>Raffles Institution</b> , All-Rounded Excellence Award	2012
<b>Ministry of Education Singapore</b> , SSEF Gold Award for top junior college research	2011
<b>MIT</b> , Top 10 presentation finalists at CEE Research Science Institute	2010

## Press Coverage

"New Research Center Aims to Develop Second Generation of Surgical Robots", by John Markoff. *The New York Times*. Oct 23, 2014.

"Robots vs. Ebola" by *CBS News* and *CNET*. Nov 2014.

"Students shine in Scientific Research" by Lin Zhaowei (appeared on the front page of Singapore's national newspaper). *The Straits Times*. January 20, 2012.

## Teaching

**Tutor**, Berkeley CS61A (Instructor John DeNero)  
Introduction to Structure and Interpretation of Computer Programming Fall 2015

**Lab Assistant**, Berkeley CS61B (Instructor Josh Hug)  
Data Structures Spring 2015

## Community Service

**AUTOLab**, Robot demos for the media, news channels, faculty and industry sponsors 2014

**Robotics Science & Systems (RSS) Conference**, Berkeley CA 2014  
Organized robotics demos for visitors in the AUTOLab.

**The Berkeley Project (UC Berkeley)**, Site Leader 2012-2015  
Organized day-long services events in the East Bay community every semester.

**Tau Beta Pi CA-Alpha (UC Berkeley)**, Industrial Relations Officer Fall 2015  
Organized tech-talks for General Motors, Counsyl, Texas Instruments, Abbott, others

## Affiliations

Phi Beta Kappa Honor Society Member	2015 - present
Tau Beta Pi Engineering Honor Society Member	2013 - present
Pi Tau Sigma Mechanical Engineering Honor Society Member	2013 - present

## Conference Publications

[1] Adithyavairavan Murali\*, Animesh Garg\*, Sanjay Krishnan\*, Florian T. Pokorny, Pieter Abbeel, Trevor Darrell, Ken Goldberg. **TSC-DL: Unsupervised Trajectory Segmentation of Multi-Modal Surgical Demonstrations with Deep Learning**. *International Conference on Robotics and Automation (ICRA)*. 2016.

[2] Adithyavairavan Murali\*, Siddarth Sen\*, Ben Kehoe, Animesh Garg, Seth McFarland, Sachin Patil, W. Douglas Boyd, Susan Lim, Pieter Abbeel, Ken Goldberg. **Learning by Observation for Surgical Subtasks: Multilateral Cutting of 3D Viscoelastic and 2D Orthotropic Tissue Phantoms**. *International Conference on Robotics and Automation (ICRA)*. 2015.

[3] Stephen McKinley, Animesh Garg, Siddarth Sen, Rishi Kapadia, Adithyavairavan Murali, Kirk

Nichols, Susan Lim, Sachin Patil, Pieter Abbeel, Allison M. Okamura, Ken Goldberg. **A Single-Use Haptic Palpation Probe for Locating Subcutaneous Blood Vessels in Robot-Assisted Minimally Invasive Surgery.** *Conference on Automation Science and Engineering (CASE)*. 2015.

[4] Kamran Shamaei, Yuhang Che, Adithyavairavan Murali, Siddarth Sen, Sachin Patil, Ken Goldberg, Allison M. Okamura. **A Paced Shared-Control Teleoperated Architecture for Supervised Automation of Multilateral Surgical Tasks.** *International Conference on Intelligent Robots and Systems (IROS)*. 2015.

[5] Kirk A. Nichols, Adithyavairavan Murali, Siddarth Sen, Ken Goldberg, Allison M. Okamura. **Models of Human-Centered Automation in a Debridement Task.** *International Conference on Intelligent Robots and Systems (IROS)*. 2015.

[6] Jeffrey Mahler, Sanjay Krishnan, Michael Laskey, Siddarth Sen, Adithyavairavan Murali, Ben Kehoe, Sachin Patil, Jiannan Wang, Mike Franklin, Pieter Abbeel, Ken Goldberg. **Learning Accurate Kinematic Control of Cable-Driven Surgical Robots Using Data Cleaning and Gaussian Process Regression.** *Conference on Automation Science and Engineering (CASE)*. 2014.

### Journal Publications

[1] Adithyavairavan Murali, Sathyan Subbiah. **A Morphological Study on Direct Polymer Cast Micro-textured Hydrophobic Surfaces.** *Surface and Coatings Technology*, 205(20), p. 4764 – 4770, 15 July 2011.

[2] Nikolai L. Yakovlev, Maxim V. Kiryukhin, Maria N. Antipina, Theo T. Susanto, Sethuraman Ravi, Adithyavairavan Murali, Gleb B. Sukhorukov. **Secondary Ion Mass Spectrometry of Macromolecules Loading in Individual Polyelectrolyte Multilayer Microcapsules.** *Australian Journal of Chemistry*, 64(9), p. 1295 – 1298, 27 July 2011.

### Workshop Posters

[1] Animesh Garg\*, Sanjay Krishnan\*, Adithyavairavan Murali, Florian T. Pokorny, Pieter Abbeel, Trevor Darrell, Ken Goldberg. **On Visual Feature Representations for Transition State Learning in Robotic Task Demonstrations.** *Neural Information Processing Systems (NIPS) Workshop on "Feature Extraction"*. 2015.

[2] Stephen McKinley, Animesh Garg, Siddarth Sen, Rishi Kapadia, Adithyavairavan Murali, Kirk Nichols, Susan Lim, Sachin Patil, Pieter Abbeel, Allison M. Okamura, Ken Goldberg. **A Single-Use Haptic Palpation Probe for Locating Subcutaneous Blood Vessels in Robot-Assisted Minimally Invasive Surgery.** *International Conference on Robotics and Automation (ICRA) Workshop on "Shared Frameworks for Medical Robotics"*. 2015.