

Srinath Sridhar

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Education

- 2012–2016 **Ph.D. Computer Science**, *Max Planck Institute for Informatics and Saarland University*, Germany.
Dissertation: “Tracking Hands in Action for Gesture-based Computer Input.”
Advisors: Christian Theobalt, Antti Oulasvirta.
Committee: Bernt Schiele, Hao Li, Hans-Peter Seidel (Chair).
- 2010–2012 **M.S.E. Electrical Engineering: Systems**, *University of Michigan*, Ann Arbor, USA.
Major: Computer Vision, Minor: Computer Science.
- 2006–2010 **B.E. Geoinformatics**, *College of Engineering Guindy, Anna University*, Chennai, India.
Thesis: “Multiple View Reconstruction & Documentation of Architectural Scenes.”

Research Experience

- Jul 2017–now **Stanford University**, *Postdoctoral Researcher, Geometric Computing Group*, CA, USA.
Advisor: Leonidas Guibas.
- Jan–Jun 2017 **Max Planck Institute for Informatics**, *Postdoctoral Researcher*, Saarbrücken, Germany.
Advisor: Christian Theobalt.
- 2015–2016 **Microsoft Research Redmond**, *Research Intern, Interactive 3D Technologies Group*, WA, USA.
Mentor: Shahram Izadi.
- May–Dec 2011 **Honda Research Institute Inc.**, *Research Intern*, Mountain View, USA.
Mentor: Victor Ng-Thow-Hing.
- 2011–2012 **Laboratory for Interactive Visualization in Engineering**, *Student Researcher*, Ann Arbor, USA.
Advisor: Vineet Kamat.

Awards & Fellowships










- 2019 **Best Paper Honorable Mention** at Eurographics 2019.
- 2018 Selected as a young researcher to participate in the **Heidelberg Laureate Forum 2018**.
- 2017 **Best Poster Award**, ICCV HANDS Workshop 2017.
- 2016 Selected to participate in the doctoral consortium and received a **travel grant for CVPR 2016**.
- 2013 **ACM Student Travel Grant** for CHI 2013.
- 2012–2016 **Max Planck Fellowship** for Ph.D. studies.
- 2011–2012 **Rackham International Student Fellowship**, University of Michigan, Ann Arbor.
- 2009 **Best Project Award**, *Single View Reconstruction of Buildings*, IIT Delhi. ▶
- 2008 **CEG Alumni Association Travel Grant** for NASA Fundamental Aeronautics Conference.
- 2008 **Second Place, NASA Fundamental Aeronautics Student Contest**, USA.

Conference Papers (Peer-reviewed)





2020

- [P.16] Davis Rempe, **Srinath Sridhar**, He Wang, Leonidas J. Guibas. *Predicting the Physical Dynamics of Unseen 3D Objects*. Winter Conference on Applications of Computer Vision (**WACV**) 2020.

2019

- [P.15] **Srinath Sridhar**, Davis Rempe, Julien Valentin, Sofien Bouaziz, Leonidas J. Guibas. *Multiview Aggregation for Learning Category-Specific Shape Reconstruction*. Conference on Neural Information Processing Systems (**NeurIPS**) 2019. 
- [P.14]  He Wang, **Srinath Sridhar**, Jingwei Huang, Julien Valentin, Shuran Song, Leonidas J. Guibas. *Normalized Object Coordinate Space for Category-Level 6D Object Pose and Size Estimation*. Conference on Computer Vision and Pattern Recognition (**CVPR**) 2019 [**oral presentation**].  
- [P.13] Davis Rempe, **Srinath Sridhar**, He Wang, Leonidas J. Guibas. *Learning Generalizable Physical Dynamics of 3D Rigid Objects*. Workshop on 3D Scene Understanding for Vision, Graphics and Robotics, **CVPRW** 2019.  
- [P.12]  He Wang*, Soeren Pirk*, Ersin Yumer, Vladimir Kim, Ozan Sener, **Srinath Sridhar**, Leonidas J. Guibas. *Learning a Generative Model for Multi-Step Human-Object Interactions from Videos*. **Eurographics** 2019. (* equal contribution) [**best paper honorable mention**]  



2018

- [P.11] Dushyant Mehta, Oleksandr Sotnychenko, Franziska Mueller, Weipeng Xu, **Srinath Sridhar**, Gerard Pons-Moll, Christian Theobalt. *Single-Shot Multi-Person 3D Body Pose Estimation From Monocular RGB Input*. **3DV** 2018.  
- [P.10] Franziska Mueller, Florian Bernard, Oleksandr Sotnychenko, Dushyant Mehta, **Srinath Sridhar**, Dan Casas, Christian Theobalt. *GANerated Hands for Real-time 3D Hand Tracking from Monocular RGB*. Conference on Computer Vision and Pattern Recognition (**CVPR**) 2018.  





2017

- [P.9] Franziska Mueller, Dushyant Mehta, Oleksandr Sotnychenko, **Srinath Sridhar**, Dan Casas, Christian Theobalt. *Real-time Hand Tracking under Occlusion from an Egocentric RGB-D Sensor*. International Conference on Computer Vision (**ICCV**) 2017.  
- [P.8] Dushyant Mehta, **Srinath Sridhar**, Oleksandr Sotnychenko, Helge Rhodin, Mohammad Shafiei, Hans-Peter Seidel, Weipeng Xu, Dan Casas, Christian Theobalt. *VNect: Real-time 3D Human Pose Estimation with a Single RGB Camera*.  ACM Transactions on Graphics (**SIGGRAPH**) 2017. 
- [P.7] **Srinath Sridhar**, Anders Markussen, Antti Oulasvirta, Christian Theobalt, Sebastian Boring. *WatchSense: On- and Above-Skin Input Sensing through a Wearable Depth Sensor*. SIGCHI Conference on Human Factors in Computing Systems (**CHI**) 2017.  



2016

- [P.6] **Srinath Sridhar**, Franziska Mueller, Michael Zollhöfer, Dan Casas, Antti Oulasvirta, Christian Theobalt. *Real-time Joint Tracking of a Hand Manipulating an Object from RGB-D Input*. European Conference on Computer Vision (**ECCV**) 2016.  



2015

- [P.5] **Srinath Sridhar**, Franziska Mueller, Antti Oulasvirta, Christian Theobalt. *Fast and Robust Hand Tracking Using Detection-Guided Optimization*. Conference on Computer Vision and Pattern Recognition (CVPR) 2015.  
- [P.4] **Srinath Sridhar**, Anna Maria Feit, Christian Theobalt, Antti Oulasvirta. *Investigating the Dexterity of Multi-Finger Input for Mid-Air Text Entry*. SIGCHI Conference on Human Factors in Computing Systems (CHI) 2015.  




2014

- [P.3] **Srinath Sridhar**, Helge Rhodin, Hans-Peter Seidel, Antti Oulasvirta, Christian Theobalt. *Real-time Hand Tracking Using a Sum of Anisotropic Gaussians Model*. International Conference on 3D Vision (3DV) 2014 [oral presentation].  

2013

- [P.2] **Srinath Sridhar**, Antti Oulasvirta, Christian Theobalt. *Interactive Markerless Articulated Hand Motion Tracking using RGB and Depth Data*. International Conference on Computer Vision (ICCV) 2013.  
- [P.1] Victor Ng-Thow-Hing, Karlin Bark, Lee Beckwith, Cuong Tran, Rishabh Bhandari, **Srinath Sridhar**. *User-Centered Perspectives for Automotive Augmented Reality*. International Symposium on Mixed and Augmented Reality (ISMAR) 2013.


Other Papers, Posters, Technical Reports, and Blog Posts

- [O.8] **Srinath Sridhar**. *Learning to Generate Human–Object Interactions*. Stanford AI Lab Blog, 2019. 
- [O.7] **Srinath Sridhar**, Gilles Bailly, Elias Heydrich, Antti Oulasvirta, Christian Theobalt. *FullHand: Markerless Skeleton-based Tracking for Free-Hand Interaction*. MPI-I-2016-4-002. Saarbrücken: Max-Planck-Institut für Informatik 2016.
- [O.6] Anna Maria Feit, **Srinath Sridhar**, Christian Theobalt, Antti Oulasvirta. *Investigating Multi-Finger Gestures for Mid-Air Text Entry*. Womenscourage 2015.
- [O.5] Anna Maria Feit, Myroslav Bachynskyi, **Srinath Sridhar**. *Towards Multi-Objective Optimization for UI Design*. Workshop on Principles, Techniques and Perspectives on Optimization and HCI, CHI 2015.
- [O.4] **Srinath Sridhar**, Antti Oulasvirta, Christian Theobalt. *Fast Tracking of Hand and Finger Articulations Using a Single Depth Camera*. MPI-I-2014-4-002. Saarbrücken: Max-Planck-Institut für Informatik 2014.
- [O.3] **Srinath Sridhar**. *HandSonor: A Customizable Vision-based Control Interface for Musical Expression*. SIGCHI Conference on Human Factors in Computing Systems (CHI) 2013.  
- [O.2] **Srinath Sridhar**, Victor Ng-Thow-Hing. *Generation of Virtual Display Surfaces for In-vehicle Contextual Augmented Reality*. International Symposium on Mixed and Augmented Reality (ISMAR) 2012.
- [O.1] **Srinath Sridhar**, Vineet Kamat. *CAMFPLAN: A Real-time Markerless Camera Pose Estimation System for Augmented Reality*. UMCEE Report No. 11-01, Department of Civil and Environmental Engineering, University of Michigan, Ann Arbor 2012.

Patents

- 2015 Victor Ng-Thow-Hing, **Srinath Sridhar**. *Method to Generate Virtual Display Surfaces from Video Imagery of Road based Scenery*. U.S. Patent, US9135754 B2, 2015. Licensed by Honda Motor Co., Ltd.

Teaching Experience

- 2013–2016 **Course Assistant, Graduate Seminar on Computer Vision for Computer Graphics, Saarland University**.
Graded student work, participated in all discussions, held office hours, and provided individual feedback.
- 2013 **Lecturer, EIT ICT Smart Spaces Summer School, INRIA, Grenoble**.
Day-long workshop on “3D Interaction using Hand Motion Tracking” for advanced graduate students. 
- 2012 **Teaching Staff, EECS 487: Computer Graphics, University of Michigan, Ann Arbor**.
Involved in designing and grading student assignments as well as exams for the course.
- 2009–2010 **Instructor & Organizer, Summer School on Mathematics and Astronomy, Anna University**.
Gave lectures on mathematics and astronomy for middle and high school students.







Service


- Organizer 3DReps Workshop at ECCV (2020)
- Area Chair IEEE VR Conference Track (2020)
- Program Committee Eurographics Short Papers (2018), Graphics Replicability Stamp Initiative (2019–), various workshops at CVPR (2015–2016, 2018–2019), ICCV (2017, 2019), and ECCV (2018).
- Reviewer CVPR, ICCV, ECCV, BMVC, TPAMI, SIGGRAPH Asia, Eurographics, CHI, UIST, AACL, IMWUT/Ubicomp, IROS, ICRA, CVIU, 3DV, FG, Computer, IEEE VR, ACM ISS, Computing Surveys, IEEE CGA, ICLR.

Technical Skills

- Languages *Advanced*: C/C++, Python, MATLAB, L^AT_EX. *Beginner*: CUDA-C, JavaScript
- Libraries PyTorch, Keras, OpenCV, OpenGL, Qt, OpenMP, Eigen
- Software Tools Emacs, bash scripting, Git, Unity, GIMP, Adobe Premiere Pro, PowerPoint, Android Studio
- Cloud AWS (EC2, EFS, S3), Google Cloud
- Hardware Depth sensors (Kinect, SoftKinetic, PMD, Intel), single-board computers (Beaglebone Black), quadcopters
- OS GNU/Linux (Debian, Ubuntu), Windows, and Android

Selected Press

- Robin.ly** CVPR 2019 Paper Discussion, Robin.ly, July 30, 2019.  
- Samsung** “Here’s how to design a robot that can cook”, Samsung NEXT Blog, April 30, 2019. 
- SR TV** “VNect”, Saarländischer Rundfunk (German State TV), June 21, 2017. 
- SR TV** “WatchSense”, Saarländischer Rundfunk (German State TV), May 21, 2017. 
- IEEE** “Control Your Smartwatch without Touching It”, IEEE Electronics 360, May 4, 2017. 

ECE News “Student teams earn prizes in EECS 556: Image Processing”, Michigan EECS, April 29, 2011. 

References

Available on request.