

# Janet G. Johnson

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## Education

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### University of California, San Diego

*La Jolla, CA, USA*

PHD IN COMPUTER SCIENCE / HUMAN COMPUTER INTERACTION, 3.748/4

*Sept. 2016 - PRESENT*

### Manipal Institute of Technology, Manipal University

*Manipal, India*

B.E. IN COMPUTER SCIENCE AND ENGINEERING, 8.79/10

*Jul. 2010 - Jun. 2014*

## Research Experience

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### Human Centered and Ubiquitous Computing Lab, UC San Diego

*La Jolla, CA, USA*

GRADUATE RESEARCHER (ALSO ASSOCIATED WITH THE DESIGN LAB)

*Apr. 2017 - PRESENT*

- Exploring the effects of interface elements on collaboration in mixed and virtual reality.
  - Designing an extended reality environment for casualty care with a focus on collaborative remote surgery.
  - Aiding the design of a mixed fidelity prototyping and authoring tool in mixed reality that exploits situated sketching.
  - Introducing mixed reality interventions to aid collaboration between family members and the care team at an ICU.
  - Employed longitudinal experience journals, interviews, and co-design sessions to uncover latent family member needs at an ICU.
  - Employed design ethnography to understand the communication and interaction patterns in an ICU.
  - Co-designed and evaluated HoloCPR, a mixed reality application that provides real-time resuscitation (CPR) aid for novices.
- Tools Used: Unity 3D, HoloSketch, Digital sketches, Paper and video prototypes, ethnography, interviews, cultural and technology probes

### Family Medicine and Public Health, UC San Diego

*La Jolla, CA, USA*

UX RESEARCHER

*Nov. 2017 - Aug. 2018*

- Designing a mobile intervention to improve patient-centered communication in primary care.
  - Responsible for communicating research and design goals to the development team.
- Tools Used: InVision

### Connected and Open Research Ethics (CORE), UC San Diego

*La Jolla, CA, USA*

GRADUATE COLLABORATORY FELLOW (UX RESEARCH)

*Oct. 2016 - Jan. 2018*

- Responsible for user experience testing and research for the CORE website.
  - Understanding the trends of Mobile, Imaging, Sensing, Social, and Tracking research based on IRB forum posts.
- Tools Used: Python, Ruby on Rails, jQuery, HTML, CSS, Wordpress

### School of Medical Science and Technology, Indian Institute of Technology

*Kharagpur (IIT-KGP), India*

RESEARCH INTERN

*Jun. 2013 - Jul. 2013*

- Segmented Magnetic Resonance Images (MRI) to enable brain tumor detection and isolation.
  - Employed rough set filtering, edge detection and unsupervised clustering.
  - Successfully isolated tumor(s) in MR Images with 78% accuracy.
- Tools Used: MATLAB

## Publications

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- Danilo Gasques Rodrigues, **Janet G. Johnson**, Thomas Sharkey, and Nadir Weibel. "Mixed-fidelity Prototyping in Augmented Reality" Under Review at Designing Interactive Systems (DIS) 2019.
- **Janet G. Johnson**, Evan Schmitz, Venkatesh Ramnath, and Nadir Weibel. "Understanding and Supporting ICU Families" Under Review at The 13th EAI International Conference on Pervasive Computing Technologies for Healthcare.
- **Janet G. Johnson**, Evan Schmitz, Venkatesh Ramnath, and Nadir Weibel. "Designing Family-Centered Aids for the ICU" To appear in the proceedings of 2019 CHI Conference on Human Factors in Computing Systems.
- Danilo Gasques Rodrigues, **Janet G. Johnson**, Thomas Sharkey, and Nadir Weibel. "What You Sketch Is What You Get: Quick and Easy Augmented Reality Prototyping with PintAR" To appear in the proceedings of 2019 CHI Conference on Human Factors in Computing Systems.
- Danilo Gasques Rodrigues, **Janet G. Johnson**, Thomas Sharkey, and Nadir Weibel. "Sketching Spatial Experiences in Augmented Reality" Under Review at The 2019 CHI Conference on Human Factors in Computing Systems.
- **Johnson, Janet G.**, Danilo Gasques Rodrigues, Madhuri Gubbala, and Nadir Weibel. "HoloCPR: Designing and Evaluating a Mixed Reality Interface for Time-Critical Emergencies." In Proceedings of the 12th EAI International Conference on Pervasive Computing Technologies for Healthcare, pp. 67-76. ACM, 2018.
- Rodrigues, Danilo Gasques, **Janet G. Johnson**, and Nadir Weibel. "Real-time guidance for cardiopulmonary resuscitation in Mixed Reality." Pervasive Health 2018 (demo)

## Professional Experience

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### PricewaterhouseCoopers & UC San Diego

*La Jolla, CA, USA*

UX RESEARCH & DESIGN INTERN

*Jun. 2017 - Sept. 2017*

- Designed a mixed reality application to visualize and interact with population health insights that drive policy-making.
  - Consulted clients to understand their goals, created design sketches, user stories, and product prototypes, and contributed to the development and testing of the application.
- Tools Used: Unity3D, InVision, Paper and video prototypes, Digital sketches

### Microsoft India (R&D) Pvt. Ltd.

*Hyderabad, India*

SOFTWARE ENGINEER

*Jul. 2014 - Jul. 2016*

- Designed an interface and developed angular components for an e-commerce site for Microsoft partners.
  - Created a tool to identify stressed devices on the Microsoft Corporate Network, reducing the time from 6-8 hrs to approx. 6 minutes.
  - Helped formulate business-unit level budget plan, created vendor contracts, and tracked and managed data-center projects as part of a program management stint.
  - Developed an online supply chain audit management system for different assessment areas.
  - Implemented an online repository for a Windows 8 application that provides project quality metrics.
- Tools Used: .NET framework (C#), SQL Server, Microsoft Azure, Windows App (C# and XAML), HTML5, CSS, AngularJS

### Juniper Networks India Pvt. Ltd.

*Bangalore, India*

ENGINEERING INTERN

*Jan. 2014 - Jun. 2014*

- Designed a framework to enhance the debugging capabilities of EX-Series Platform Forwarding Engine.
  - Made additions to JUNOS to pull relevant information from the Routing Engine, PFE and chipset of the switch.
  - Reduced time to obtain the above-mentioned information from 30 minutes and 18 seconds to 12.7 seconds.
- Tools Used: C, Python, Unix

## Teaching Experience

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### CSE 190/291 - Human-Computer Interaction for Health (HCI4H), UC San Diego

La Jolla, CA, India

TEACHING ASSISTANT

Jan. 2019 - PRESENT

- This course explores the challenges of designing and introducing new interactive and sensing technology to healthcare.
- Responsible for grading and logistics of the course.

### Interaction Design Specialization, Coursera

La Jolla, CA, India

TEACHING STAFF

Sept. 2017 - PRESENT

- This specialization, led by Prof. Scott Klemmer of UC San Diego, teaches fundamentals for designing, implementing, and evaluating user interfaces.
- Managed the logistics and course material for the eight courses that make up the specialization.

### CSE 118/218 - Ubiquitous Computing, UC San Diego

La Jolla, CA, India

TEACHING ASSISTANT

Sept - Dec. 2017 & 2018

- This course explores ubiquitous computing through both paper readings and a quarter-long project with a focus on prototyping using mixed reality.
- Responsible for holding discussion sessions, grading and logistics of the course.
- Mentored three teams through the design and development of their projects.

### COGS 160 - Advanced Interaction Design, UC San Diego

La Jolla, CA, India

TEACHING ASSISTANT

Apr. 2017 - Jun. 2017

- This course introduces social computing, interaction techniques and information design in a bi-weekly studio format.
- Helped conduct classes, held office hours, and was responsible for the logistics of the class.
- Created rubrics and graded weekly assignments and the final design submissions.

## Honors and Responsibilities

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### FELLOWSHIPS AND AWARDS

2017	<b>Graduate Fellow</b> , UC San Diego Chancellor's Interdisciplinary Collaboratories	La Jolla, CA, USA
2010	<b>First Position</b> , C++ Kaiser, IE-CSE (Manipal) Coding Competition	Manipal, India
2010	<b>Merit - Top 1% in Computer Science in India</b> , All India Senior School Certificate Examination	India

### LEADERSHIP POSITIONS

2013	<b>Treasurer</b> , AAINA Dramatics, Manipal University's official dramatics club	Manipal, India
2013	<b>Category head, Hospitality</b> , Revels, MIT Manipal's national cultural festival	Manipal, India
2012	<b>Category head, Hospitality</b> , Techatva, MIT Manipal's national technical festival	Manipal, India
2012	<b>Sponsorship Head</b> , AAINA Dramatics	Manipal, India
2012	<b>Assistant Director</b> , AAINA Dramatics	Manipal, India

### INSTITUTIONAL SERVICE

2019	<b>Member of the Diversity, Equity, and Inclusion Committee (Current)</b> , CSE, UC San Diego	La Jolla, CA, USA
2018	<b>Member of Graduate Women in Computing (Current)</b> , UC San Diego	La Jolla, CA, USA
2017	<b>MS Program Representative</b> , CSE, UC San Diego	La Jolla, CA, USA
2014	<b>Host</b> , Build The Shield, Microsoft's national level college hacking contest	Hyderabad, India
2011	<b>Set Designer</b> , AAINA Dramatics	Manipal, India
2013	<b>Management Committee Member</b> , Indian Society of Technical Education, Manipal Chapter	Manipal, India

### COMMUNITY SERVICE

2012	<b>Volunteer Service Organization (VSO)</b> , Manipal	Manipal, India
2008	<b>Dubai Cares</b> , Improving access to primary education in developing countries	Dubai, UAE