


# 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 (MS-PHD TRANSFER IN 2018) / HUMAN COMPUTER INTERACTION, 3.775/4

APPLICABLE COURSEWORK: INTERACTION DESIGN, INTERACTION DESIGN RESEARCH, INFORMATION VISUALIZATION,  
HUMAN-COMPUTER INTERACTION FOR HEALTH, HEALTHCARE ROBOTICS

*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*

- Studying remote synchronous collaboration in mixed and virtual reality environments.
- 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.

### 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.

### 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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- **Janet G. Johnson**, Danilo Gasques, Tommy Sharkey, Evan Schmitz, and Nadir Weibel. "Understanding the Role of Spatial Knowledge in Context-Aware Collaborative AR", In Submission at the 2020 ACM Conference on Computer Supported Cooperative Work and Social Computing.
- K.L. Davis, D. Gasques, Y.Zhang, W. Xie, **J. Johnson**, Y. Feng, Z. Xu, J. Riback, T. Sharkey, M. Yip, N. Weibel. "ARTEMIS, Augmented Reality Technology to Enable reMote Integrated Surgery: A Review of Technical Consideration and Study Design", 2019 Military Health System Research Symposium (MHSRS 2019), Orlando Florida, August 2019.
- **Janet G. Johnson**, Evan Schmitz, Venkatesh Ramnath, and Nadir Weibel. "Nurture-Empower-Support: A Human-Centered Approach to Understand and Support ICU Families", In Proceedings of The 13th EAI International Conference on Pervasive Computing Technologies for Healthcare, pp. 119-128. ACM, 2019.
- Thomas Sharkey, **Janet G. Johnson**, Danilo Gasques, and Nadir Weibel. "I Want to Be a Surgeon! Role Playing for Remote Surgery in Mixed Reality", In Proceedings of WISH 2019, Workshop on Interactive System for Healthcare, CHI 2019.
- Danilo Gasques Rodrigues, **Janet G. Johnson**, Thomas Sharkey, and Nadir Weibel. "PintAR: Sketching Spatial Experiences in Augmented Reality", In the Designing Interactive Systems Conference 2019 Companion, pp. 17-20. ACM, 2019.
- **Janet G. Johnson**, Evan Schmitz, Venkatesh Ramnath, and Nadir Weibel. "Designing Family-Centered Aids for the ICU", In Proceedings of the 2019 CHI Conference Extended Abstracts 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", In Proceedings of the 2019 CHI Conference Extended Abstracts 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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### **Facebook UK Limited**

*London, UK*

UX RESEARCH INTERN, AR/VR

*Jun. 2019 - Sept. 2019*

- Conducted qualitative UX research on the Spark AR ecosystem to inform future directions.

### **PricewaterhouseCoopers & UC San Diego**

*La Jolla, CA, USA*

UX RESEARCH & DESIGN INTERN

*Jun. 2017 - Sept. 2017*

- Responsible for the UX research and design of a collaborative mixed reality application to visualize and interact with population health insights that drive policy-making.  
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.  
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 118/218 - Ubiquitous Computing, UC San Diego

La Jolla, CA, India

TEACHING ASSISTANT

Sept - Dec. 2017, 2018 & 2019

- This course explores ubiquitous computing through both paper readings and a quarter-long project with a focus on mixed reality.
- Responsible for holding discussion sessions, some lectures, and mentoring teams on mixed reality projects.

### 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 - Aug. 2019

- 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.

### 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

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| 2017 | <b>Graduate Fellow</b> , UC San Diego Chancellor's Interdisciplinary Collaboratories                 | La Jolla, CA, USA |
| 2010 | <b>Merit - Top 1% in Computer Science in India</b> , All India Senior School Certificate Examination | India             |

### TALKS

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| 2017 | <b>Video Games to the Rescue!</b> , Fleet Science Center | San Diego, CA, USA |
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### LEADERSHIP POSITIONS

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

## COMMUNITY SERVICE

- 2012 **Volunteer Service Organization (VSO)**, Manipal *Manipal, India*
- 2008 **Dubai Cares**, Improving access to primary education in developing countries *Dubai, UAE*