

Janet G. Johnson

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Education

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

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.
- 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

- **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.
- 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. "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.
- **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

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

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 - 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.

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

FELLOWSHIPS AND AWARDS

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

LEADERSHIP POSITIONS

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

INSTITUTIONAL SERVICE

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| 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 |