

SHASHANK AHIRE

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EDUCATION

PhD in Human-Computer Interaction, Leibniz University Hannover *December 2019 - present*

Thesis: Composing Human-Cognition Convenient Responses for Dual-Task Scenarios in Conversational User Interfaces.

Supervisors: Prof. Michael Rohs and Prof. Wolfgang Nejdl

Masters in Computer Science, Swansea University *September 2018 - September 2019*

Thesis: Designing the Smart Speaker for Emergent Users: Human-AI Symbiosis.

Supervisor: Prof. Matt Jones

Bachelor of Computer Engineering, Mumbai University *July 2010 - June 2013*

Project: Media Player for Semi-literate Users in India

GPA: 6.56/10.0

Supervisor: Prof. Bharti Joshi

PROJECTS

Developing Seamless Interaction in Smart Speakers *December 2019 - present*

Supervisor: Prof. Michael Rohs and Prof. Wolfgang Nejdl

- Developed an Ubiquitous Work for Assistance (UWA), which consisted of stationary and a wearable conversational agent to assist knowledge work.
- To overcome the usability issues of wake words, we developed a context associated technique. Our technique led to 85% reduction in wake words usage.
- Designed a framework to compose dual-task compatible smart speaker responses.

Emerging Technologies for Emergent users *August 2016 - September 2019*

Supervisor: Prof. Matt Jones

- Developed a prototype of human-AI integrated smart speaker for Emergent users.
- In user testing, my smart speaker responded to 1.9 times more requests compared to the Google Voice Kit.
- In an observational study, we identified user's criterias for preferring human or AI response.

Inclusive Interface for Visually Challenged Users *October 2015 - January 2017*

Supervisor: Dr. Charudatta Jadhav

- Designed and evaluated gesture-based Hindi language keyboard for visually disabled users.
- Quantitative analysis revealed, learning time on our keyboard was 50% less.
- In A/B testing, our keyboard was 1.4 times faster and reduced errors by 30%.

Text-input in Indian Languages *May 2014 - September 2015*

Supervisors: Prof. Anirudha Joshi and Prof. Girish Dalvi

- Conducted a longitudinal study of four Marathi language keyboards with 148 school students. From the data insights and observations, we improved the user experience of *Swarachakra* keyboard.
- Lead data analysis on ≈ 42900 sentences collected from user testing.

RESEARCH INTEREST

I am inspired to develop a functional smart speakers, which assist users in performing their tasks productively and efficiently. Next, I am determined to build a human-like interaction in smart speaker, which could enable users to have a seamless and human-cognition convenient conversation. Further, I am motivated to build a smart speaker which is suitable to the requirements of non-mainstream users.

WORK EXPERIENCE

Research and Teaching Assistant

Courses: Mobile Interaction and Seminar
Leibniz University Hannover

December 2019 - present
Human-Computer Interaction

Research Associate

Supervisor: Prof. Anirudha Joshi
Industrial Design Center, IIT Bombay

May 2014 - August 2018
Interaction Design for Indian Needs lab

SKILLS

Research	Usability Evaluation, User Research, Prototype Building, Field Studies, Research Methods, Qualitative Research, Quantitative Research, Online Experiments, User-Behaviour Analysis, Logs Analysis, Interviews, Participatory Workshops, User-Centric Design.
Technical	Computer Vision, Wireframe Design, Python, NLP, LaTeX.
Software	Balsamiq, Adobe Creative Suite, Anaconda Navigator, IBM SPSS.
Soft Skill	Problem Solving, Creative Thinking, Cross-cultural Collaboration, Communicating Ideas and Story Telling.

AWARDS AND ACHIEVEMENTS

Honorable Mention award at CHI 2019 and CHI 2017 conference.

Best paper award at INTERACT 2017 conference.

Best paper award at IndiaHCI 2015 conference.

RELEVANT PUBLICATIONS

1. **Ubiquitous Work Assistant: Synchronizing a Stationary and a Wearable Conversational Agent to Assist Knowledge Work** Shashank Ahire, Michael Rohs, Simon Benjamin *In Proceedings of Symposium on Human-Computer Interaction for Work (CHIWORK '22)*
2. **How Compatible is Alexa with Dual Tasking? — Towards Intelligent Personal Assistants for Dual-Task Situations** Shashank Ahire, Aaron Priegnitz, Oguz Önbas, Michael Rohs, Wolfgang Neidl *In Proceedings of the 9th International Conference on Human-Agent Interaction (HAI '21)*
3. **Tired of Wake Words? Moving Towards Seamless Conversations with Intelligent Personal Assistants.** Shashank Ahire and Michael Rohs *In Proceedings of the 2nd Conference on Conversational User Interfaces (CUI '20)* .
4. **StreetWise: Smart Speakers vs Human Help in Public Slum Settings.** Jennifer Pearson, Simon Robinson, Thomas Reitmaier, Matt Jones, Shashank Ahire, Anirudha Joshi *In Proceedings of the 2019 CHI Conference on Human Factors in Computing Systems (CHI '19)* .
5. **Revisiting “Hole in the Wall” Computing: Private Smart Speakers and Public Slum Settings.** Simon Robinson, Jennifer Pearson, Shashank Ahire, Matt Jones. 2018. *In Proceedings of the 2018 CHI Conference on Human Factors in Computing Systems (CHI '18)*.
6. **Performance of Accessible Gesture-Based Indic Keyboard.** Pabba Anu Bharath, Charudatta Jadhav, Shashank Ahire, Anirudha Joshi. (2017) *Human-Computer Interaction (INTERACT 2017)*.
🏆 Best Paper Award

REFERENCES

- **Michael Rohs**, Head, Human-Computer Interaction, Leibniz University Hannover, Germany, michael.rohs@hci.uni-hannover.de
- **Wolfgang Nejdl**, Director , L3S, Leibniz University Hannover, Germany, nejdl@L3S.de