



# ZHANNA SARSENBAYEVA

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<https://zhannina.github.io/>

## EDUCATION

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**The University of Melbourne, Melbourne, Australia**

2017 – 2020

**PhD** in Computer Science (Engineering)

*Thesis: Quantifying the Effects of Situationally-Induced Impairments and Disabilities on Mobile Interaction*

**University of Oulu, Oulu, Finland**

2014 – 2016

**MSc** in Computer Science and Engineering

*Thesis grade - Excellent*

**University College London, London, UK**

2007 – 2010

**BSc** in Computer Science (Hons.)

## ACADEMIC APPOINTMENTS

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**Doreen Thomas Postdoctoral Fellow**

March 2020 – March 2023

The University of Melbourne, Melbourne, Australia

## AWARDS AND RECOGNITION

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**2022–2023:** Australia-Germany Joint Research Cooperation Scheme (24,800 AUD)

**2021:** CIS ECR grant (20,000 AUD), Faculty of Engineering and Information Technology, The University of Melbourne, Australia

**2020:** Doreen Thomas Postdoctoral Fellowship (298,375 AUD), The University of Melbourne, Australia

**2019:** Gaetano Borriello Outstanding Student Award for outstanding research contributions and service to the field of ubiquitous and pervasive computing, UbiComp'19, London, UK

**2019:** Google PhD Fellowship in Human-Computer Interaction (15,000 AUD)

**2019:** Diane Lemaire Scholarship, Faculty of Engineering and Information Technology, The University of Melbourne (7,000 AUD)

**2018:** Best Presentation Award – Honourable Mention, Doctoral Colloquium, UbiComp'18, Singapore

**2018:** UbiComp'18 Travel Grant, Singapore

**2018:** Google PhD Travel Scholarship

**2017:** SIGCHI Best of OzCHI Honourable Mention Award (top 5% of papers), OzCHI 2017, Brisbane, Australia

**2017:** Google PhD Travel Scholarship

**2017:** Melbourne Research Scholarship, The University of Melbourne

**2017:** Best Poster Award – Honourable Mention, Doctoral Colloquium, The University of Melbourne, Australia

**2016:** Best Project Award, International UBI Summer School 2016, Oulu, Finland

**2015:** Best Presentation Award, International UBI Summer School 2015, Oulu, Finland

## TEACHING

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### The University of Melbourne

**2022** Media Computation (COMP10003, Lecturer, 67%)

**2021** Media Computation (COMP10003, Lecturer, 50%)

**2019** Fundamentals of Interaction Design (INFO10003, Tutor)

**2019** Designing Novel Interactions (INFO90003, Tutor)

**2018** Fundamentals of Interaction Design (INFO10003, Tutor)

**2017** Fundamentals of Interaction Design (INFO10003, Tutor)

**2017** Graphics and Interaction (COMP30019, Tutor)

## ADDITIONAL WORK EXPERIENCE

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### Research Assistant

The University of Melbourne, Melbourne, Australia

Feb 2019 – Oct 2019

### Android Developer

<https://intellection.kz/>

2016 – 2017

Almaty, Kazakhstan

### Research Assistant

Center for Ubiquitous Computing

Sep 2015 – Dec 2016

University of Oulu, Finland

### Teaching Assistant

2011 – 2014

Nazarbayev University, Astana, Kazakhstan

### Technical Consultant

2010 – 2011

Medtronic, Almaty, Kazakhstan

## EXTRACURRICULAR ACTIVITIES

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**2019:** Melbourne Knowledge Week, Melbourne, Australia (Demo: Emotion Detection Using Smartphones)

**2018:** Secretary at Computer and Information Systems Research Students Organisation (CIS-GReS), The University of Melbourne, Australia

**2017:** The University of Melbourne Open Day, Australia (Demo: Emotion Detection Using Smartphones)

## ACADEMIC SERVICE

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**2021:** Papers Chair, OzCHI'21, Australia

**2021:** AC for CHI, MobileHCI

**2020:** Video Previews Co-Chair, CHI'20, Hawaii, USA

**2020:** External Reviewer for CHI, MobileHCI, IMWUT

**2019:** Co-organiser, Workshop on “Addressing the Challenges of Situationally-Induced Impairments and Disabilities in Mobile Interaction”, CHI'19, Glasgow, UK

**2019:** Video Previews Co-Chair, CHI'19, Glasgow, UK

**2019:** External Reviewer for IJHCS, IMWUT

**2018:** Co-organiser, Workshop on “Ubiquitous Mobile Sensing: Behaviour, Mood, and Environment”, UbiComp'18, Singapore

- 2018:** Student Volunteer, UbiComp'18, Singapore
- 2018:** Student Volunteer Chair, OzCHI'18, Melbourne, Australia
- 2018:** Student Design Challenge Chair, OzCHI'18, Melbourne, Australia
- 2018:** External Reviewer for IMWUT, MobileHCI, OzCHI
- 2017:** External Reviewer for IMWUT, OzCHI
- 2017:** Student Volunteer, OzCHI 2017, Brisbane, Australia
- 2016:** Student Volunteer, International UBI Summer School 2016, Oulu, Finland

## SUPERVISED MSC THESES

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- 2021:** Yifan Cai (MSc, Co-supervisor) **2020:** Sicheng Sun (MSc, Co-supervisor) **2020:** Chuangang Xia (MSc, Primary supervisor) **2020:** Eylul Ertay and Hao Huang (MSc, Co-supervisor) **2020:** Shu Yan (MSc, Co-supervisor (Tech)) **2018:** Silan Li (MSc, Co-supervisor (Tech)) **2018:** Jia Liu (MSc, Co-supervisor (Tech))

## REFERENCES

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- Prof. Vassilis Kostakos**, Professor in HCI, The University of Melbourne, Australia,  
email: vassilis.kostakos@unimelb.edu.au
- Dr. Jorge Goncalves**, Senior Lecturer in HCI, The University of Melbourne, Australia,  
email: jorge.goncalves@unimelb.edu.au
- Prof. Jacob O. Wobbrock**, Professor in HCI, The University of Washington, USA,  
email: wobbrock@uw.edu
- A/Prof. Simo Hosio**, Associate Professor, the University of Oulu, Finland,  
email: simo@simohosio.com

## INVITED TALKS

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- 2021:** “Accessibility Research in HCI”, Seminar series at the School of Computing and Information Systems, The University of Melbourne, Australia
- 2019:** “Situational Impairments in Mobile Interaction”, The University of Dundee, UK
- 2019:** “Situational Impairments in Mobile Interaction”, The University of Melbourne, Australia
- 2018:** “Enhancing Mobile Interaction during Situational Impairments”, The University of Manchester, UK

## PUBLICATIONS

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### 2022

- Z. Sarsenbayeva, N. van Berkel, E. Veloso, J. Goncalves, V. Kostakos (2022). Methodological Standards in Accessibility Research on Motor Impairments: A Survey. ACM Computing Surveys, (May 2022), doi: <https://doi.org/10.1145/3543509>.
- B. Tag, Z. Sarsenbayeva, A. Cox, G. Wadley, J. Goncalves, V. Kostakos (2022). Emotion Trajectories in Smartphone Use: Towards Recognizing Emotion Regulation In-the-Wild. International Journal of Human-Computer Studies, 166, 102872.
- C. Wang, K. Yang, W. Jiang, J. Wei, Z. Sarsenbayeva, J. Goncalves, V. Kostakos (2022). Hand Hygiene Quality Assessment using Image-to-Image Translation. In Proceedings of the International Conference on Medical Image Computing and Computer Assisted Intervention MICCAI22, to appear.

W. Jiang, D. Yu, C. Wang, Z. Sarsenbayeva, N. van Berkel, J. Goncalves, V. Kostakos (2022). Near-Infrared Imaging for Information Embedding and Extraction with Layered Structures. ACM Transactions on Graphics, (April 2022), doi: <https://doi.org/10.1145/3533426>.

C. Wang, W. Jiang, K. Yang, B. Tag, Z. Sarsenbayeva, T. Dingler, J. Goncalves, V. Kostakos (2022). A System for Computational Assessment of Hand Hygiene Techniques. Journal of Medical Systems, 46(6), 1-12.

B. Tag, N. van Berkel, A. Vargo, Z. Sarsenbayeva, T. Colasante, G. Wadley, S. Webber, W. Smith, P. Koval, T. Hollenstein, J. Goncalves, V. Kostakos (2022). Impact of the Global Pandemic upon Young Peoples Use of Technology for Emotion Regulation. Computers in Human Behavior Reports, 6, 100192:1-100192:16.

## 2021

C. Wang, W. Jiang, K. Yang, D. Yu, J. Newn, Z. Sarsenbayeva, J. Goncalves, V. Kostakos (2021). A Systematic Review of Electronic Monitoring Systems for Hand Hygiene. Journal of Medical Internet Research (**IF: 5.43**), in press.

E. Ertay, H. Huang, Z. Sarsenbayeva, T. Dingler (2021). Challenges of Emotion Detection Using Facial Expressions and Emotion Visualisation in Remote Communication. Adjunct Proceedings of the 2021 ACM International Joint Conference on Pervasive and Ubiquitous Computing (UbiComp21 Adjunct), 230-236.

K. Yang, C. Wang, Y. Gu, Z. Sarsenbayeva, B. Tag, T. Dingler, G. Wadley, J. Goncalves (2021). Behavioral and Physiological Signals-Based Deep Multimodal Approach for Mobile Emotion Recognition. IEEE Transactions on Affective Computing (**IF: 10.506**), doi: [10.1109/TAFFC.2021.3100868](https://doi.org/10.1109/TAFFC.2021.3100868).

W. Jiang, Z. Sarsenbayeva, N. van Berkel, C. Wang, D. Yu, J. Wei, J. Goncalves, V. Kostakos (2021). User Trust in Assisted Decision-Making Using Miniaturized Near-Infrared Spectroscopy. In Proceedings of the ACM SIGCHI Conference on Human Factors in Computing Systems 2021 (**CHI21, CORE A\***), to appear.

## 2020

K. Yang, C. Wang, Z. Sarsenbayeva, B. Tag, T. Dingler, G. Wadley, J. Goncalves (2020). Benchmarking Commercial Emotion-Detection Systems using Realistic Distortions of Facial Image Datasets. The Visual Computer (**IF: 1.456**), 1:20.

Z. Sarsenbayeva, G. Marini, N. van Berkel, C. Luo, W. Jiang, K. Yang, G. Wadley, T. Dingler, V. Kostakos, J. Goncalves (2020). Does Smartphone Use Drive our Emotions or vice versa? A Causal Analysis. In Proceedings of the ACM SIGCHI Conference on Human Factors in Computing Systems 2020 (**CHI'20, CORE A\***), 193:1-193:14.

D. Hettiachchi, Z. Sarsenbayeva, F. Allison, N. van Berkel, T. Dingler, G. Marini, V. Kostakos, J. Goncalves (2020). “Hi! I am the Crowd Tasker” Crowdsourcing through Digital Voice Assistants. In Proceedings of the ACM SIGCHI Conference on Human Factors in Computing Systems 2020 (**CHI'20, CORE A\***), 36:1-36:15.

C. Wang, Z. Sarsenbayeva, X. Chen, T. Dingler, J. Goncalves, V. Kostakos (2020). Accurate Measurement of Hand-Wash Quality Using Sensor Armbands: Instrument Validation Study. JMIR mHealth and uHealth (**IF: 4.31**), 8(3), e17001:1-e17001:18.

N. van Berkel, J. Goncalves, S. Hosio, Z. Sarsenbayeva, E. Velloso, V. Kostakos (2020). Overcoming Compliance Bias in Self-Report Studies: A Cross-Study Analysis. International Journal of Human-Computer Studies (**IF: 3.163**), 134, 1-12.

W. Jiang, G. Marini, N. van Berkel, Z. Sarsenbayeva, Z. Tan, C. Luo, X. He, T. Dingler, J. Goncalves, Y. Kawahara, V. Kostakos (2019). Probing Sucrose Contents in Everyday Drinks Using Miniaturized Near-Infrared Spectroscopy Scanners. Proceedings of the ACM on Interactive, Mobile, Wearable and Ubiquitous Technologies (**IMWUT, UbiComp'20, CORE A\***), 3(4), 136:1-136:25.

Z. Sarsenbayeva, B. Tag, S. Yan, V. Kostakos, J. Goncalves (2020). Using Video Games to Regulate Emotion. In Proceedings of the 32nd Australian Conference on Human-Computer Interaction (OzCHI'20), 755759.

G.W. Tigwell, Z. Sarsenbayeva, B.M. Gorman, D.R. Flatla, J. Goncalves, Y. Yesilada, J.O. Wobbrock (2020). Future Directions for Situationally Induced Impairments and Disabilities Research. ACM Interactions Blog.

## 2019

Z. Sarsenbayeva, N. van Berkel, D. Hettiachchi, W. Jiang, T. Dingler, E. Velloso, V. Kostakos, J. Goncalves (2019). Measuring the Effects of Stress on Mobile Interaction. Proceedings of the ACM on Interactive, Mobile, Wearable and Ubiquitous Technologies (**IMWUT, UbiComp'19, CORE A\***), 3(1), 24:1-24:18.

Z. Sarsenbayeva, N. van Berkel, W. Jiang, D. Hettiachchi, V. Kostakos, J. Goncalves (2019). Effect of Ambient Light on Mobile Interaction. Proceedings of the 17th IFIP TC.13 International Conference on Human-Computer Interaction (**INTERACT'19, CORE A**), Lecture Notes in Computer Science, vol 11748. Springer, Cham.

Z. Sarsenbayeva, V. Kostakos, J. Goncalves (2019). Situationally-Induced Impairments and Disabilities Research. In Extended Abstracts of the 2019 CHI Conference on Human Factors in Computing Systems (CHI'19 EA).

C. Wang, Z. Sarsenbayeva, C. Luo, J. Goncalves, V. Kostakos (2019). Improving Wearable Sensor Data Quality Using Context Markers. Adjunct Proceedings of the 2019 ACM International Joint Conference on Pervasive and Ubiquitous Computing (UbiComp'19 Adjunct), 598-601.

G.W. Tigwell, Z. Sarsenbayeva, B.M. Gorman, D.R. Flatla, J. Goncalves, Y. Yesilada, J.O. Wobbrock (2019). Addressing the Challenges of Situationally-Induced Impairments and Disabilities in Mobile Interaction. In Extended Abstracts of the 2019 CHI Conference on Human Factors in Computing Systems (CHI'19 EA).

C. Luo, A. Visuri, S. Klakegg, N. van Berkel, Z. Sarsenbayeva, A. Möttönen, J. Goncalves, T. Anagnostopoulos, D. Ferreira, H. Flores, E. Velloso, V. Kostakos (2019). Energy-Efficient Prediction of Smartphone Unlocking, Personal and Ubiquitous Computing (**IF: 2.395**), 23(1), 159-177.

## 2018

Z. Sarsenbayeva, N. van Berkel, E. Velloso, V. Kostakos, J. Goncalves (2018). Effect of Distinct Ambient Noise Types on Mobile Interaction. Proceedings of the ACM on Interactive, Mobile, Wearable and Ubiquitous Technologies (**IMWUT, UbiComp'18, CORE A\***), 2(2), 82:1-82:23.

🏆 S. Klakegg, J. Goncalves, C. Luo, A. Visuri, A. Popov, N. van Berkel, Z. Sarsenbayeva, V. Kostakos, S. Hosio, S. Savage, A. Bykov, I. Meglinski, D. Ferreira (2018). Assisted Medication Management in Elderly Care Using Miniaturised Near-Infrared Spectroscopy. Proceedings of the ACM on Interactive, Mobile, Wearable and Ubiquitous Technologies (**IMWUT, UbiComp'18, CORE A\***), 2(2), 69:1-69:24. Best Paper Award

🏆 Zhanna Sarsenbayeva. Situational Impairments during Mobile Interaction. Proceedings of the ACM on Interactive, Mobile, Wearable and Ubiquitous Technologies (IMWUT, UbiComp'18 Adjunct) 1(1), 11:498-11:503. Best Presentation – Honourable Mention Award

O. Matthews, Z. Sarsenbayeva, W. Jiang, J. Newn, E. Velloso, S. Clinch, J. Goncalves (2018). Inferring the Mood of a Community From Their Walking Speed: A Preliminary Study. Adjunct Proceedings of the 2018 ACM International Joint Conference on Pervasive and Ubiquitous Computing (UbiComp'18 Adjunct), 1144-1149.

W. Jiang, G. Marini, N. van Berkel, Z. Sarsenbayeva, C. Luo, X. He, T. Dingler, Y. Kawahara, V. Kostakos. A Mobile Scanner for Probing Liquid Samples in Everyday Settings. Proceedings of the 2018 ACM International Joint Conference on Pervasive and Ubiquitous Computing (Ubicomp'18 Adjunct), 1172-1177.

A. Visuri, K. Asare, E. Kuosmanen, Y. Nishiyama, D. Ferreira, Z. Sarsenbayeva, J. Goncalves, N. van Berkel, G. Wadley, V. Kostakos, S. Clinch, O. Matthews, S. Harper, A. Jenkins, S. Snow, m. c. schraefel (2018). Ubiquitous Mobile Sensing: Behaviour, Mood, and Environment. Adjunct Proceedings of the 2018 ACM International Joint Conference on Pervasive and Ubiquitous Computing (UbiComp'18 Adjunct), 1140-1143.

S. Mayer, L. Lischke, J. E. Grønbæk, Z. Sarsenbayeva, J. Vogelsang, P. Woźniak, N. Henze, G. Jacucci. Pac-Many: Movement Behavior when Playing Collaborative and Competitive Games on Large Displays. In Proceedings of the ACM SIGCHI Conference on Human Factors in Computing Systems 2018 (**CHI'18, CORE A\***), 539:1-539:10.

## 2017

🏆 Z. Sarsenbayeva, N. van Berkel, C. Luo, V. Kostakos, J. Goncalves (2017). Challenges of Situational Impairments during Interaction with Mobile Devices. Proceedings of the 29th Australian Conference on Human-Computer Interaction (OzCHI'17), 477-481. Best Paper – Honourable Mention Award

Z. Sarsenbayeva, N. van Berkel, A. Visuri, S. Rissanen, H. Rintamaki, V. Kostakos, J. Goncalves (2017). Sensing Cold-Induced Situational Impairments in Mobile Interaction using Battery Temperature. Proceedings of the ACM on Interactive, Mobile, Wearable and Ubiquitous Technologies (**IMWUT, UbiComp'17, CORE A\***), 1(3), 98:1-98:10.

Z. Sarsenbayeva, D. Ferreira, N. van Berkel, C. Luo, M. Vaisanen, V. Kostakos, J. Goncalves (2017). Vision-Based Happiness Inference: A Feasibility Case-Study. Adjunct Proceedings of the 2017 ACM International Joint Conference on Pervasive and Ubiquitous Computing (UbiComp'17 Adjunct), 494-499.

A. Visuri, Z. Sarsenbayeva, N. van Berkel, J. Goncalves, R. Rawassizadeh, V. Kostakos, D. Ferreira (2017). Quantifying Sources and Types of Smartwatch Usage Sessions. In Proceedings of the ACM SIGCHI Conference on Human Factors in Computing Systems 2017 (**CHI'17, CORE A\***), 3569-3581.

J. Goncalves, Z. Sarsenbayeva, N. van Berkel, C. Luo, S. Hosio, S. Risanen, H. Rintamaki, V. Kostakos (2017). Tapping Task Performance on Smartphones in Cold Temperature. Interacting with Computers (**IF: 1.036**), 29(3), 355-367.

## 2016

Z. Sarsenbayeva, J. Goncalves, J. Garcia, S. Klakegg, S. Rissanen, H. Rintamaki, J. Hannu, V. Kostakos (2016). Situational Impairments to Mobile Interaction in Cold Environments. In Proceedings of the 2016 ACM International Joint Conference on Pervasive and Ubiquitous Computing (**UbiComp'16, CORE A\***), 85-96.

A. Visuri, Z. Sarsenbayeva, J. Goncalves, E. Karapanos, S. Jones (2016). Impact of Mood Changes on Application Selection. In Adjunct Proceedings of the 2016 ACM International Joint Conference on Pervasive and Ubiquitous Computing (UbiComp'16 Adjunct), 535-540.