Ahmed Sabbir Arif

University of California, Merced

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Professional Positions

Associate Professor	SINCE 07/2024
Assistant Professor Computer Science & Engineering University of California, Merced **Director of** the Inclusive Interaction Lab	07/2017 – 06/2024
Postdoctoral Research Fellow Toronto Metropolitan University, Canada (FKA Ryerson University) **Advisor:** Ali Mazalek	01/2014 – 06/2017
NSERC ENGAGE Postdoctoral Research Fellow York University, Canada **Advisor:** Wolfgang Stuerzlinger	04/2013 – 10/2013
Contract Faculty Humber College, Canada	09/2010 – 12/2012
Research Intern Microsoft Research, Redmond **Mentors:** Bill Buxton, Ken Hinckley, Michel Pahud	05/2012 – 08/2012
Contract Faculty York University, Canada	09/2011 – 12/2011

Education

PhD – York University, Canada **Major:** Computer Science and Engineering Predicting and Reducing the Impact of Errors in Character-Based Text Entry **Advisor:** Wolfgang Stuerzlinger **Committee:** I. S. MacKenzie, P. Godfrey, M. Wiseheart, D. J. Wigdor (External)	09/2006 – 10/2014
MSc – Lakehead University, Canada **Major:** Computer and Mathematical Sciences An Ontological Approach for Searching Multi-Datasource Web Services **Committee:** J. Fiaidhi (Advisor), S. Mohammed, M. Garg (External)	09/2004 – 05/2006
BSc – Trent University, Canada **Major:** Computer Science and Studies 3D Radiation Visualization for Medical Applications	09/2001 – 05/2004

Committee: J. W. Jury (Advisor), W. Feng, B. Hircock

Training, License, & Certification

Child Abuse and Neglect Reporting Act (**CANRA**) by Department of Social Services, University of California Agriculture and Natural Resources	06/2018
Responsible Conduct of Research: Social and Behavioral Responsible Conduct of Research Course 1. Basic Course, CITI Program	12/2017
Accessibility for Ontarians with Disabilities Act (**AODA**), Canada	01/2014
Tri-Council Policy Statement: Ethical Conduct for Research Involving Humans Course on Research Ethics (**TCPS 2: CORE**), Panel on Research Ethics, Canada	07/2011

Professional Memberships

Institute of Electrical and Electronics Engineers (**IEEE**)	SINCE 03/2017
▸ IEEE Systems, Man, and Cybernetics Society Membership (**SMC**)	SINCE 03/2017
▸ IEEE Brain Community (**BC**)	SINCE 01/2021
Association for Computing Machinery (**ACM**)	SINCE 01/2010
▸ ACM Special Interest Group on Computer-Human Interaction	SINCE 12/2021
Graphics, Animation and New Media Network of Centres of Excellence (**GRAND-NCE**)	11/2013 – 12/2015
Canada's Association of Information Technology Professionals (**CIPS**)	03/2014 – 06/2015
Centre for Vision Research (**CVR**) at York University, Canada	09/2006 – 10/2014

Awards & Honors

Awards from funding agencies are listed in the Research Grants section

Best Paper & Honorable Mention Awards

Best Paper Award. ACM Interactive Surfaces and Spaces Conference (**ISS**)	C39	2022
Best Paper Honorable Mention Award. ACM Interactive Surfaces and Spaces Conference (**ISS**)	C37	2021
Michael A. J. Sweeney Award. Canadian Human Computer Communications Society (**CHCCS**)	C35	2021
Michael A. J. Sweeney Award. Canadian Human Computer Communications Society (**CHCCS**)	C24	2019
Michael A. J. Sweeney Award. Canadian Human Computer Communications Society (**CHCCS**)	C11	2014
Gitte Lindgaard Award. Computer-Human Interaction Special Interest Group (**CHISIG**)	C08	2013

Special Recognition for Outstanding Reviews

ACM Symposium on User Interface Software and Technology (**UIST**)	2024

ACM Designing Interactive Systems (**DIS**)	2024
ACM International Conference on Intelligent User Interfaces (**IUI**)	2023
ACM Int. Conference on Human Computer Interaction with Mobile Devices & Services (**MobileHCI**)	2020
ACM CHI Conference on Human Factors in Computing Systems (**CHI**)	2018
ACM Annual Symposium on Computer-Human Interaction in Play (**CHI Play**)	2014

Scholarships & Bursaries

CUPE Unit 1 Graduate Financial Assistance, York University	$ 10,030	2006–12
Faculty of Graduate Studies (**FGS**) Tuition Fee Bursary, York University	$ 5,150	2008–11
CUPE General Bursary, York University	$ 850	2007–11
Ontario Graduate Scholarships in Science & Technology (**OGSST**), Government of Ontario	$ 10,000	2010
Graduate Studies Bursary Supplement, York University	$ 500	2008
Graduate International Tuition Award, Lakehead University	$ 9,000	2005
Faculty Research Scholarship (Winter), Lakehead University	$ 3,000	2005
Faculty Research Scholarship (Summer), Lakehead University	$ 3,000	2005
Faculty Research Scholarship (Fall), Lakehead University	$ 3,000	2005
KPMG Bursary, Trent University	$ 500	2004

Publications

Book Chapters

B01 Ahmed Sabbir Arif. 2021. Statistical Grounding. *Intelligent Computing for Interactive System Design: Statistics, Digital Signal Processing, and Machine Learning in Practice (1st ed.)*. ACM, New York, NY, USA, 59–99.

Conference & Journal Papers (Refereed)

Conferences are the main publication venues in HCI. Acceptance rates (%) are provided when available. For journals, impact factors at the time of submission are provided when available. Undergraduate student authors are highlighted in underlined font and high school student authors are highlighted in thick underlined font

C47 Tafadzwa Joseph Dube, Ahmed Sabbir Arif. 2024. Free-Hand Input and Interaction in Virtual Reality Using a Custom Force-Based Digital Thimble. *Applied Sciences* 14, 23 (November 2024), 11018. In *Aruanno, B., Bordegoni, M. (Eds.). Special Issue on Human-Computer Interaction and Virtual Environments*.

C46 Ghazal Zand, Ahmed Sabbir Arif. 2024. THUMBDRIVER: Telepresence Robot Control with a Finger-Worn Mouse. In *Proceedings of the 2024 IEEE Conference on Telepresence* (**TELEPRESENCE 2024**). IEEE, Washington, DC, USA, **TO APPEAR**.

C45 Laxmi Pandey, Ahmed Sabbir Arif. 2024. MELDER: The Design and Evaluation of a Real-time Silent Speech Recognizer for Mobile Devices. In *Proceedings of the 2024 CHI Conference on Human Factors in Computing Systems* (**CHI 2024**). ACM, New York, NY, USA, Article 320, 1–23. (**26%**)

C44 Wendy Haw, Yuan Ren, Kianna Ng, Ahmed Sabbir Arif. 2024. Investigating the Effects of Self-selected Pleasant Scents on Text Composition and Transcription Performance. In *Proceedings of the 2024 CHI Conference on Human Factors in Computing Systems* (**CHI 2024**). ACM, New York, NY, USA, Article 280, 1–13. (**26%**)

C43 Gulnar Rakhmetulla, Yuan Ren, Ahmed Sabbir Arif. 2023. GeShort: One-Handed Mobile Text Editing and Formatting with Gestural Shortcuts and a Floating Clipboard. *Proceedings of the ACM on Human-Computer Interaction* 7, **MHCI**, Article 212 (September 2023), 23 pages. (**38%**)

C42 Gulnar Rakhmetulla, Ahmed Sabbir Arif. 2023. Crownboard: A One-Finger Crown-Based Smartwatch Keyboard for Users with Limited Dexterity. In *Proceedings of the 2023 CHI Conference on Human Factors in Computing Systems* (**CHI 2023**). ACM, New York, NY, USA, Article 46, 1–22. (**28%**)

C41 Yuan Ren, Ahmed Sabbir Arif. 2023. Investigating a Force-Based Selection Method for Smartwatches in a 1D Fitts' Law Study and Two New Character-Level Keyboards. In *Proceedings of the 17th International Conference on Tangible, Embedded, and Embodied Interaction* (**TEI 2023**). ACM, New York, NY, USA. (**23%**)

C40 Ghazal Zand, Yuan Ren, Ahmed Sabbir Arif. 2022. TiltWalker: Operating a Telepresence Robot with One-Hand by Tilt Controls on a Smartphone. *Proceedings of the ACM on Human-Computer Interaction*, **ISS**, Article 572 (December 2022), 26 pages. (**25%**)

C39 Tafadzwa Joseph Dube, Yuan Ren, Hannah Limerick, I. Scott MacKenzie, Ahmed Sabbir Arif. 2022. Push, Tap, Dwell, and Pinch: Evaluation of Four Mid-Air Selection Methods Augmented with Ultrasonic Haptic Feedback. *Proceedings of the ACM on Human-Computer Interaction* 6, **ISS**, Article 565 (December 2022), 19 pages. (**25%**) **Best Paper Award**

C38 Laxmi Pandey, Ahmed Sabbir Arif. 2022. Design and Evaluation of a Silent Speech-Based Selection Method for Eye-Gaze Pointing. *Proceedings of the ACM on Human-Computer Interaction* 6, **ISS**, Article 570 (December 2022), 26 pages. (**25%**)

C37 Yuan Ren, Ahmed Sabbir Arif. 2021. Stepper, Swipe, Tilt, Force: Comparative Evaluation of Four Number Pickers for Smartwatches. *Proceedings of the ACM on Human-Computer Interaction* 5, **ISS**, Article 500 (November 2021), 21 pages. (**30%**) **Honorable Mention Award**

C36 Gulnar Rakhmetulla, Ahmed Sabbir Arif, Steven Castellucci, I. Scott MacKenzie, Caitlyn Seim. 2021. Using Action-Level Metrics to Report the Performance of Multi-Step Keyboards. In *Proceedings of the 47th Graphics Interface Conference* (**GI 2021**). Canadian Human-Computer Communications Society (CHCCS), Toronto, Canada, Article 15, 127-137. (**35%**)

C35 Gulnar Rakhmetulla, Ahmed Sabbir Arif. 2021. SwipeRing: Gesture Typing on Smartwatches Using a Segmented Qwerty Around the Bezel. In *Proceedings of the 47th Graphics Interface Conference* (**GI 2021**). Canadian Human-Computer Communications Society (CHCCS), Toronto, Canada, Article 19, 166-177. (**35%**) **Best Paper Award**

C34 Laxmi Pandey, Ahmed Sabbir Arif. 2021. LipType: A Silent Speech Recognizer Augmented with an Independent Repair Model. In *Proceedings of the 2021 CHI Conference on Human Factors in Computing Systems* (**CHI 2021**). ACM, New York, NY, USA, Article 1, 1-19. (**26%**)

C33 Laxmi Pandey, Khalad Hasan, Ahmed Sabbir Arif. 2021. Acceptability of Speech and Silent Speech Input Methods in Private and Public. In *Proceedings of the 2021 CHI Conference on Human Factors in Computing Systems* (**CHI 2021**). ACM, New York, NY, USA, Article 251, 1-13. (**26%**)

C32	Satvik Kulshreshtha, Ahmed Sabbir Arif. 2020. Woodpecker: Secret Back-of-Device Tap Rhythms to Authenticate Mobile Users. In *Proceedings of the 2020 IEEE International Conference on Systems, Man, & Cybernetics* (**SMC 2020**). IEEE, Washington, DC, USA, 2727-2733.
C31	Laxmi Pandey, Ahmed Sabbir Arif. 2020. Enabling Text Translation Using the Suggestion Bar of a Virtual Keyboard. In *Proceedings of the 2020 IEEE International Conference on Systems, Man, & Cybernetics* (**SMC 2020**). IEEE, Washington, DC, USA, 4352-4357.
C30	Gulnar Rakhmetulla, Ahmed Sabbir Arif. 2020. Senorita: A Chorded Keyboard for Sighted, Low Vision, and Blind Mobile Users. In *Proceedings of the 2020 CHI Conference on Human Factors in Computing Systems* (**CHI 2020**). ACM, New York, NY, USA, 1–13. (**24%**)
C29	Laxmi Pandey*, Azar Alizadeh, Ahmed Sabbir Arif. 2020. Enabling Predictive Number Entry and Editing on Touchscreen-Based Mobile Devices. In *Proceedings of the 2020 Conference on Human Information Interaction and Retrieval* (**CHIIR 2020**). ACM, New York, NY, USA, 13–22. (**38%**) ***SIGIR Student Travel Grants; ACM-W Scholarship for Attendance at Conferences**
C28	Steven J. Castellucci, I. Scott MacKenzie, Mudit Misra, Laxmi Pandey, Ahmed Sabbir Arif. 2019. TiltWriter: Design and Evaluation of a No-touch Tilt-based Text Entry Method for Handheld Devices. In *Proceedings of the 18th International Conference on Mobile and Ubiquitous Multimedia* (**MUM 2019**). ACM, New York, NY, USA, Article 7, 8 pages. (**43%**)
C27	Cristina Sylla, Elena Márquez Segura, Akeiylah DeWitt, Ahmed Sabbir Arif, Eva Irene Brooks. 2019. Fiddling, Pointing, Hovering, and Sliding: Embodied Actions with Three Evaluation Tools for Children. In *Proceedings of the 2019 Annual Symposium on Computer-Human Interaction in Play* (**CHI PLAY 2019**). ACM, New York, NY, USA, 59-72. (**28%**)
C26	Yusuke Niiro, Marcelo Kallmann, Ahmed Sabbir Arif. 2019. An Experimental Comparison of Touch and Pen Gestures on a Vertical Display. In *Proceedings of the 8th ACM International Symposium on Pervasive Displays* (**PerDis 2019**). ACM, New York, NY, USA, Article 18, 6 pages. (**43%**)
C25	Sean DeLong, Ahmed Sabbir Arif, Ali Mazalek. 2019. Design and Evaluation of Graphical Feedback on Tangible Interactions in a Low-Resolution Edge Display. In *Proceedings of the 8th ACM International Symposium on Pervasive Displays* (**PerDis 2019**). ACM, New York, NY, USA, Article 8, 7 pages. (**43%**)
C24	Ohoud Alharbi, Ahmed Sabbir Arif, Wolfgang Stuerzlinger, Mark D. Dunlop, Andreas Komninos. 2019. WiseType: A Tablet Keyboard with Color-Coded Visualization and Various Editing Options for Error Correction. In *Proceedings of Graphics Interface 2019* (**GI '19**). Canadian Human-Computer Communications Society (CHCCS), Toronto, Canada, 10 pages. (**42%**) **Best Paper Award**
C23	Satvik Kulshreshtha, Ahmed Sabbir Arif. 2019. Text Entry Performance on an Expandable Socket Attached Smartphone in Stationary and Mobile Settings. In Ahram T., Falcão C. (Eds.), Advances in Usability and User Experience (**AHFE 2019**), *Advances in Intelligent Systems and Computing*, 972. Springer, Cham, Switzerland, 207-217.
C22	Tafadzwa Joseph Dube, Ahmed Sabbir Arif. 2019. Text Entry in Virtual Reality: A Comprehensive Review of the Literature. In Kurosu M. (Eds.), *Human-Computer Interaction. Recognition & Interaction Technologies* (**HCII 2019**), Lecture Notes in Computer Science, 11567. Springer, Cham, Switzerland, 419-437.
C21	Xiumin Shang, Marcelo Kallmann, Ahmed Sabbir Arif. 2019. Effects of Virtual Agent Gender on User Performance and Preference in a VR Training Program. In Kohei Arai, Supriya Kapoor, and Rahul Bhatia (Eds.), *Advances in Information and Communication* (**FICC 2019**). Springer, Cham, Switzerland, 482–495.

C20	Ashish Yadav, Ahmed Sabbir Arif. 2018. Effects of Keyboard Background on Mobile Text Entry. In *Proceedings of the 17th International Conference on Mobile and Ubiquitous Multimedia* (**MUM 2018**). ACM, New York, NY, USA, 109-114. (**46%**)
C19	Ahmed Sabbir Arif, Sarah Fardeen, Ali Mazalek. 2017. Mobile Text Entry Challenges Among Low-Income Users in a Developing Country. In *Proceedings of the 2017 IEEE International Conference on Systems, Man, & Cybernetics* (**SMC 2017**). IEEE, Washington, DC, USA, 624-629.
C18	Ahmed Sabbir Arif, Cristina Sylla, Ali Mazalek. 2017. Effects of Different Types of Correctness Feedback on Children's Performance with a Mobile Math App. In *Proceedings of the 2017 IEEE International Conference on Systems, Man, & Cybernetics* (**SMC 2017**). IEEE, Washington, DC, USA, 2844-2849. **Young Professional Travel Award**
C17	Ahmed Sabbir Arif, Sunjun Kim, Geehyuk Lee. 2017. Usability of Different Types of Commercial Selfie Sticks. In *Proceedings of the 19th International Conference on Human Computer Interaction with Mobile Devices and Services* (**MobileHCI 2017**). ACM, New York, NY, USA, Article 10, 8 pages. (**20%**)
C16	Meghna Mehta, Ahmed Sabbir Arif, Apurva Gupta, Sean DeLong, Roozbeh Manshaei, Graceline Williams, Manasvi Lalwani, Sanjay Chandrasekharan, Ali Mazalek. 2016. Active Pathways: Using Active Tangibles and Interactive Tabletops for Collaborative Modeling in Systems Biology. *In Proceedings of the ACM International Conference on Interactive Surfaces and Spaces* (**ISS 2016**). ACM, New York, NY, USA, 129-138. (**28%**)
C15	Ahmed Sabbir Arif, Sunjun Kim, Wolfgang Stuerzlinger, Geehyuk Lee, Ali Mazalek. 2016. Evaluation of a Smart-Restorable Backspace Technique to Facilitate Text Entry Error Correction. In *Proceedings of the 34th Annual ACM Conference on Human Factors in Computing Systems* (**CHI 2016**). ACM, New York, NY, USA, 5151-5162. (**23%**)
C14	Ahmed Sabbir Arif, Ali Mazalek. 2016. A Survey of Text Entry Techniques for Smartwatches. In *Proceedings, Part II, of the 18th International Conference on Human-Computer Interaction (**HCII 2016**). Interaction Platforms and Techniques – Volume 9732*, Masaaki Kurosu (Ed.). Springer-Verlag, New York, NY, USA, 255-267. (**33%**)
C13	Ahmed Sabbir Arif, Roozbeh Manshaei, Sean DeLong, Brien East, Matthew Kyan, Ali Mazalek. 2016. Sparse Tangibles: Collaborative Exploration of Gene Networks Using Active Tangibles and Interactive Tabletops. In *Proceedings of the 10th International Conference on Tangible, Embedded, and Embodied Interaction* (**TEI 2016**). ACM, New York, NY, USA, 287-295. (**25%**)
C12	Ahmed Sabbir Arif, Ali Mazalek, Wolfgang Stuerzlinger. 2014. The Use of Pseudo Pressure in Authenticating Smartphone Users. In *Proceedings of the 11th Annual International Conference on Mobile and Ubiquitous Systems: Computing, Networking & Services* (**MobiQuitous 2014**). ICST, Brussels, Belgium, 151-160. (**19%**)
C11	Ahmed Sabbir Arif, Michel Pahud, Ken Hinckley, Bill Buxton. 2014. Experimental Study of Stroke Shortcuts for a Touchscreen Keyboard with Gesture-Redundant Keys Removed. In *Proceedings of Graphics Interface 2014* (**GI 2014**). Canadian Information Processing Society, Toronto, Canada, 43-50. (**37%**) **Best Paper Award**
C10	Ahmed Sabbir Arif, Wolfgang Stuerzlinger. 2014. User Adaptation to a Faulty Unistroke-Based Text Entry Technique by Switching to an Alternative Gesture Set. In *Proceedings of Graphics Interface 2014* (**GI 2014**). Canadian Information Processing Society, Toronto, Canada, 183-192. (**37%**)
C09	Ahmed Sabbir Arif, Wolfgang Stuerzlinger. 2013. Evaluation of a New Error Prevention Technique for Mobile Touchscreen Text Entry. In *Proceedings of the 25th Conference of the Computer-Human Interaction Special Interest Group of Australia on Computer-Human Interaction* (**OzCHI '13**). ACM, New York, NY, USA, 397-400. (**48%**)

C08	Ahmed Sabbir Arif, Wolfgang Stuerzlinger. 2013. Pseudo-Pressure Detection and Its Use in Predictive Text Entry on Touchscreens. In *Proceedings of the 25th Conference of the Computer-Human Interaction Special Interest Group of Australia on Computer-Human Interaction* (**OzCHI 2013**). ACM, New York, NY, USA, 383-392. (**48%**) **Best Paper Award**
C07	Ahmed Sabbir Arif, Cristina Sylla. 2013. A Comparative Evaluation of Touch and Pen Gestures for Adult and Child Users. In *Proceedings of the 12th International Conference on Interaction Design and Children* (**IDC 2013**). ACM, New York, NY, USA, 392-395. (**33%**)
C06	Ahmed Sabbir Arif. 2012. A Survey on Mobile Text Entry Handedness: How Do Users Input Text on Handheld Devices while Nomadic? In *Proceedings of the 4th International Conference on Intelligent Human Computer Interaction* (**IHCI 2012**). IEEE, Washington, DC, USA, 1-6. (**43%**)
C05	Ahmed Sabbir Arif, Benedikt Iltisberger, Wolfgang Stuerzlinger. 2011. Extending Mobile User Ambient Awareness for Nomadic Text Entry. In *Proceedings of the 23rd Conference of the Computer-Human Interaction Special Interest Group of Australia on Computer-Human Interaction* (**OzCHI 2011**). ACM, New York, NY, USA, 21-30. (**43%**)
C04	Ahmed Sabbir Arif, Wolfgang Stuerzlinger. 2010. Predicting the Cost of Error Correction in Character-Based Text Entry Technologies. In *Proceedings of the 28th International Conference on Human Factors in Computing Systems* (**CHI 2010**). ACM, New York, NY, USA, 5-14. (**22%**)
C03	Ahmed Sabbir Arif, Wolfgang Stuerzlinger. 2009. Analysis of Text Entry Performance Metrics. In *Proceedings of the IEEE Toronto International Conference–Science and Technology for Humanity* (**TIC-STH 2009**). IEEE, Washington, DC, USA, 100-105. (**52%**)
C02	Sabah Mohammed, Jinan Fiaidhi, Ahmed Sabbir Arif. 2006. Developing Filtering Techniques for Securing Vector Graphics Images Applied to Ubiquitous Patient Records. In *Proceedings of the 5th WSEAS International Conference on Telecommunications and Informatics* (**TELE-INFO 2006**). WSEAS, Stevens Point, WI, USA, 139-144.
C01	Jinan Fiaidhi, Sabah Mohammed, Madan Garg, Ahmed Sabbir Arif. 2005. Developing a SAX Filtering Intermediary Service for Protecting SVG Multimedia Contents in a Ubiquitous Publish/Subscribe Environment. In *Proceedings of the International Conference on Internet Computing* (**ICOMP 2005**). CSREA, Las Vegas, NV, USA, 515-521.

Conference Posters, Abstracts, & Position Papers (Refereed)

Posters and extended abstracts at most HCI conferences are comparable to Notes at other scholarly venues presenting complete research, reviewed in double-blind process. Acceptance rates (**%**) are provided when available. Undergraduate student authors are highlighted in underlined font and high school student authors are highlighted in thick underlined font

A36	Veena Sumedh, Peter Ly, Yuan Ren, Cristina Sylla, Abigail Plata, Ahmed Sabbir Arif. 2022. Impact of Static and Animated eBook Illustrations on Children's Engagement, Enjoyment, and Information Recall. In *CHI Conference on Human Factors in Computing Systems Extended Abstracts* (**CHI EA 2024**). ACM, New York, NY, USA, Article 195, 1–11. (**34%**)
A35	Tafadzwa Joseph Dube, Ahmed Sabbir Arif. 2023. Ultrasonic Keyboard: A Mid-Air Virtual Qwerty with Ultrasonic Feedback for Virtual Reality. In *the 17th International Conference on Tangible, Embedded, and Embodied Interaction* (**TEI 2023**). ACM, New York, NY, USA. (**45%**)

A34 Mark D. Dunlop, Wolfgang Stuerzlinger, Ahmed Sabbir Arif, Andreas Komninos, Ohoud Alharbi. 2022. TEXT2030 - Shaping Text Entry Research in 2030. *Adjunct Publication of the 24th International Conference on Mobile Human-Computer Interaction* (**MobileHCI 2022 Adjunct**). ACM, New York, NY, USA, 4 pages.

A33 Tafadzwa Joseph Dube, Kevin Johnson, Ahmed Sabbir Arif. 2022. Shapeshifter: Gesture Typing in Virtual Reality with a Force-based Digital Thimble. *CHI Conference on Human Factors in Computing Systems Extended Abstracts* (**CHI 2022 EA**). ACM, New York, NY, USA, Article 230, 1–9. (**36%**)

A32 Laxmi Pandey, Ahmed Sabbir Arif. 2022. Effects of Speaking Rate on Speech and Silent Speech Recognition. *CHI Conference on Human Factors in Computing Systems Extended Abstracts* (**CHI 2022 EA**). ACM, New York, NY, USA, Article 231, 1–8. (**36%**)

A31 Laxmi Pandey, Ahmed Sabbir Arif. 2021. Silent Speech and Emotion Recognition from Vocal Tract Shape Dynamics in Real-Time MRI. In *Special Interest Group on Computer Graphics and Interactive Techniques Conference Posters* (**SIGGRAPH 2021 Posters**). ACM, New York, NY, USA, Article 27, 1–2.

A30 Mohammad A. Sharif, Gulnar Rakhmetulla, Ahmed Sabbir Arif. 2020. TAPSTR: A Tap and Stroke Reduced-QWERTY for Smartphones. In *Proceedings of the 2020 ACM International Conference on Interactive Surfaces and Spaces* (**ISS '20**). ACM, New York, NY, USA, 47-50.

A29 Di "Chelsea" Sun, Vaishnavi Melkote, Ahmed Sabbir Arif. 2020. Exploratory Study of Young Children's Social Media Needs and Requirements. In *Proceedings of the 2020 ACM Interaction Design & Children Conference: Extended Abstracts* (**IDC 2020**). ACM, New York, NY, USA, 332-337.

A28 Tafadzwa Joseph Dube, Ahmed Sabbir Arif. 2020. Impact of Key Shape and Dimension on Text Entry in Virtual Reality. In *Extended Abstracts of the 2020 CHI Conference on Human Factors in Computing Systems* (**CHI EA 2020**). ACM, New York, NY, USA, 1-10. (**42%**)

A27 Laxmi Pandey, Ahmed Sabbir Arif. 2019. Context-Sensitive App Prediction on the Suggestion Bar of a Mobile Keyboard. In *Proceedings of the 18th International Conference on Mobile and Ubiquitous Multimedia* (**MUM 2019**). ACM, New York, NY, USA, Article 45, 5 pages. (**67%**)

A26 Mudit Misra, Elena Márquez Segura, Ahmed Sabbir Arif. 2019. Exploring the Pace of an Endless Runner Game in Stationary and Mobile Settings. In *Proceedings of the 2019 Annual Symposium on Computer-Human Interaction in Play Companion Extended Abstracts* (**CHI PLAY 2019 EA**). ACM, New York, NY, USA, 543-550.

A25 Xiumin Shang, Marcelo Kallmann, Ahmed Sabbir Arif. 2019. Effects of Correctness and Suggestive Feedback on Learning with an Autonomous Virtual Trainer. In *Proceedings of the 24th International Conference on Intelligent User Interfaces Companion* (**IUI 2019 Comp.**). ACM, New York, NY, USA, 93-94.

A24 Monwen Shen, Gulnar Rakhmetulla, Ahmed Sabbir Arif. 2018. Put a Ring on It: Text Entry Performance on a Grip Ring Attached Smartphone. In ***MobileHCI 2018*** *Workshop on Socio-Technical Aspects of Text Entry* (September 3, 2018). Barcelona, Spain, CEUR-WS.org/Vol-2183, 6-10.

A23 Ahmed Sabbir Arif, Wolfgang Stuerzlinger, Mark D. Dunlop, Xin Yi, Caitlyn Seim. 2018. Socio-Technical Aspects of Text Entry. *Workshop at the 20th International Conference on Human Computer Interaction with Mobile Devices and Services* (**MobileHCI 2018**). 4 pages.

A22 Ohoud Alharbi, Ahmed Sabbir Arif. 2018. The Perception of Humanoid Robots for Domestic Use in Saudi Arabia. In ***CHI 2018*** *Workshop on Exploring Participatory Design Methods to Engage with Arab Communities* (April 22, 2018). Montréal, QC, Canada, 6 pages.

A21 Cristina Sylla, Ahmed Sabbir Arif, Elena Márquez Segura, Eva Irene Brooks. 2017. Paper Ladder: A Rating Scale to Collect Children's Opinion in User Studies. In *Proceedings of the 19th International Conference on*

	Human Computer Interaction with Mobile Devices & Services (**MobileHCI 2017**). ACM, New York, NY, USA, Article 96, 8 pages. (**43%**)
A20	Keith Vertanen, Kyle Montague, Mark D. Dunlop, Ahmed Sabbir Arif, Xiaojun Bi, Shiri Azenkot. 2017. Ubiquitous Text Interaction. In *Proceedings of the 35th Annual ACM Conference Extended Abstracts on Human Factors in Computing Systems* (**CHI 2017 EA**). ACM, New York, NY, USA, 566-573.
A19	Ahmed Sabbir Arif, Sean DeLong, Brien East, Roozbeh Manshaei, Apurva Gupta, Manasvi Lalwani, Ali Mazalek. 2017. Extending the Design Space of Tangible Objects via Low-Resolution Edge Displays. In *Proceedings of the 11th International Conference on Tangible, Embedded, and Embodied Interaction* (**TEI 2017**). ACM, New York, NY, USA, 481-488. (**45%**)
A18	Ahmed Sabbir Arif, Ali Mazalek. 2016. WebTEM: A Web Application to Record Text Entry Metrics. In *Proceedings of the 2016 ACM International Conference on Interactive Surfaces and Spaces* (**ISS 2016**). ACM, New York, NY, USA, 415-420.
A17	Ahmed Sabbir Arif, Cristina Sylla, Ali Mazalek. 2016. Learning New Words and Spelling with Autocorrections. In *Proceedings of the 2016 ACM International Conference on Interactive Surfaces and Spaces* (**ISS 2016**). ACM, New York, NY, USA, 409-414.
A16	Brien East, Sean DeLong, Roozbeh Manshaei, Ahmed Sabbir Arif, Ali Mazalek. 2016. Actibles: Open Source Active Tangibles. In *Proceedings of the 2016 ACM International Conference on Interactive Surfaces and Spaces* (**ISS 2016**). ACM, New York, NY, USA, 469-472.
A15	Ahmed Sabbir Arif, Sarah Fardeen. 2016. A Phrase Set for Bengali Text Entry Evaluations Based on Actual Text Messages. In *Proceedings of the 34th Annual ACM Conference Extended Abstracts on Human Factors in Computing Systems* (**CHI 2016 EA**). ACM, New York, NY, USA, 2992-2998. (**43%**)
A14	Keith Vertanen, Mark D. Dunlop, James Clawson, Per Ola Kristensson, Ahmed Sabbir Arif. 2016. Inviscid Text Entry and Beyond. In *Proceedings of the 34th Annual ACM Conference Extended Abstracts on Human Factors in Computing Systems* (**CHI 2016 EA**). ACM, New York, NY, USA, 3469-3476. (**45%**)
A13	Andrea Bellucci, Aneesh P. Tarun, Ahmed Sabbir Arif, Ali Mazalek. 2016. Developing Responsive and Interactive Environments with the ROSS Toolkit. In *Proceedings of the 10th International Conference on Tangible, Embedded, and Embodied Interaction* (**TEI 2016**). ACM, New York, NY, USA, 782-785.
A12	Andrea Bellucci, Aneesh P. Tarun, Ahmed Sabbir Arif, Ali Mazalek. 2015. ROSS Toolkit: An Infrastructure and API for Building Interactive Environments. In ***ITS 2015*** *Workshop on Shared Infrastructures for Tangible Tabletops & Interactive Surfaces* (November 15, 2015). Madeira, Portugal, 4 pages.
A11	James Clawson, Ahmed Sabbir Arif, Stephen Brewster, Mark D. Dunlop, Per O. Kristensson, Antti Oulasvirta. 2015. Text Entry on the Edge. In *Proceedings of the 33rd Annual ACM Conference Extended Abstracts on Human Factors in Computing Systems* (**CHI 2015 EA**). ACM, New York, NY, USA, 2381-2384. (**59%**)
A10	Ahmed Sabbir Arif, Wolfgang Stuerzlinger, Ali Mazalek, Sunjun Kim, Geehyuk Lee. 2015. A Smart-Restorable Backspace to Facilitate Text Entry Error Correction. In ***CHI 2015*** *Workshop on Text Entry on the Edge* (April 18, 2015). Seoul, South Korea, 4 pages.
A09	Sayan Sarcar, Ahmed Sabbir Arif, Ali Mazalek. 2015. Metrics for Bengali Text Entry Research. In ***CHI 2015*** *Workshop on Text Entry on the Edge* (April 18, 2015). Seoul, South Korea, 4 pages.
A08	Aneesh P. Tarun, Ahmed Sabbir Arif, Andrea Bellucci, Ali Mazalek. 2015. Responsive Objects, Surfaces and Spaces (ROSS): Framework for Simplifying Cross-Device Communication. In ***TEI 2015*** *Workshop on Interactive Infrastructures – Towards a Language for Distributed Interfaces* (January 16, 2015). Stanford, CA, USA, 5 pages.

A07 Ahmed Sabbir Arif, Ali Mazalek. 2014. Slide-to-Unlock Revisited: Two New User Authentication Techniques for Touchscreen-Based Smartphones. In *Proceedings of the 11th Annual International Conference on Mobile & Ubiquitous Systems: Computing, Networking and Services* (**MobiQuitous 2014**). ICST, Brussels, Belgium, 389-390.

A06 Ali Mazalek, Ahmed Sabbir Arif. 2014. Mobile-Based Tangible Interaction Techniques for Shared Displays. In *Proceedings of the 16th International Conference on Human Computer Interaction with Mobile Devices & Services* (**MobileHCI 2014**). ACM, New York, NY, USA, 561-562.

A05 Ahmed Sabbir Arif, Wolfgang Stuerzlinger, Euclides Jose de Mendonca Filho, Alec Gordynski. 2014. Error Behaviours in an Unreliable In-Air Gesture Recognizer. In *Proceedings of the 32nd Annual ACM Conference Extended Abstracts on Human Factors in Computing Systems* (**CHI 2014 EA**). ACM, New York, NY, USA, 1603-1608. (**49%**)

A04 Ahmed Sabbir Arif, Wolfgang Stuerzlinger, Euclides Jose de Mendonca Filho, Alec Gordynski. 2014. How Do Users Interact with an Error-Prone In-Air Gesture Recognizer? In ***CHI 2014*** *Workshop on Gesture-based Interaction Design: Communication and Cognition* (April 26, 2014). Toronto, Canada, 69-72.

A03 Ahmed Sabbir Arif, Michel Pahud, Ken Hinckley, Bill Buxton. 2013. A Tap and Gesture Hybrid Method for Authenticating Smartphone Users. In *Proceedings of the 15th International Conference on Human Computer Interaction with Mobile Devices and Services* (**MobileHCI 2013**). ACM, New York, NY, USA, 486-491. (**46%**)

A02 Ahmed Sabbir Arif, Wolfgang Stuerzlinger. 2012. How Do Users Adapt to a Faulty System? In ***CHI 2012*** *Workshop on Designing and Evaluating Text Entry Methods* (May 5, 2012). Austin, TX, USA, 11-14.

A01 Ahmed Sabbir Arif, Mauricio H. Lopez, Wolfgang Stuerzlinger. 2010. Two New Mobile Touchscreen Text Entry Techniques. *Poster at the 36th Graphics Interface Conference* (**GI 2010**). CEUR-WS.org/Vol-588, 22-23.

NONREFEREED PUBLICATIONS

Additional technical notes, tutorials, and research tools are available on https://www.asarif.com/notes.html

N04 Laxmi Pandey, Ahmed Sabbir Arif. 2021. Silent Speech and Emotion Recognition from Vocal Tract Shape Dynamics in Real-Time MRI. arXiv:2106.08706 [cs, eess]. Retrieved Jul. 25, 2021.

N03 Xiumin Shang, Ahmed Sabbir Arif, Marcelo Kallmann. 2020. Evaluating Feedback Strategies for Virtual Human Trainers. University of California, Merced, USA.

N02 Anna-Maria Gueorguieva, Gulnar Rakhmetulla, Ahmed Sabbir Arif. 2018. Enabling Input on Tiny/Headless Systems Using Morse Code. *Poster at Center for Cellular and Biomolecular Machines Open House* (October 22, 2018). University of California, Merced, USA.

N01 Ahmed Sabbir Arif. 2010. Metrics for Multi-Touch Input Technologies. York University, Toronto, Canada.

Intellectual Property

I02 Michel Pahud, William A. S. Buxton, Kenneth P. Hinckley, Ahmed Sabbir Arif. Multi-Gesture Security Code Entry. US Patent 14/599,966. Licensed to Microsoft Corporation. (Application: January 19, 2015, Licensed: July 21, 2016).

I01	William A. S. Buxton, Ahmed Sabbir Arif, Michel Pahud, Kenneth P. Hinckley, Finbarr S. Duggan. Keyboard with Gesture-Redundant Keys Removed. U. S. Patent 13/720,527. Licensed to Microsoft Corporation. (Application: December 19, 2012, Licensed: May 1, 2014).

Invited Talks & Guest Lectures

17	Input and Interaction in the Virtual World *Mind, Technology, & Society (**MTS**) Invited Speaker Series* *Department of Cognitive & Information Sciences, UC Merced* Hosts: Drs. Kristina Backer, Heather Bortfeld	11/2022
16	Rethinking Inclusivity of Digital Text Entry, Editing, and Error Correction *Marie Skłodowska-Curie Innovative Training Network (**MSCA ITN**), Horizon 2020, European Union* Host: Dr. Radu-Daniel Vatavu	06/2022
15	Selecting and Reporting the Right Statistical Test in Human-Computer Interaction Research *Cybersecurity, Privacy and Human-Centred Computing Seminar, Cardiff University, Wales, UK* Host: Dr. Parisa Eslambolchilar	01/2022
14	What if Computers Could Read Our Lips? Silent Speech as an Active Mode of Interaction with Computer Systems *Center for Advancing Human-Machine Partnership (**CAHMP**) Seminar, George Mason University, VA*	11/2021
13	What if Computers Could Read Our Lips? Silent Speech as an Active Mode of Interaction with Computer Systems ***CITRIS** Research Exchange Seminar, UC Berkeley*	10/2021
12	Human-Computer Interaction Research Overview *Joint San Jose State University and UC Merced Engineering Flash Talks*	10/2021
11	Text Entry Residuals: Looking at the Overlooked Aspects of Mobile Text Entry *NSF-NRT: Intelligent Adaptive Systems Seminar Series, UC Merced* Host: Dr. Ramesh Balasubramaniam	11/2020
10	*Text Entry Residuals: Looking at the Overlooked Aspects of Mobile Text Entry* *CS Colloquium Seminar, University of California, Davis* Host: Dr. Hao-Chuan Wang	10/2020
09	Bridging the Gap Between Research and Design *Grameenphone Telecom, Grameenphone Telecom, Dhaka, Bangladesh* Host: Md. Moinuddin Bhuiyan	06/2018
08	ACM SIGCHI Summer School on Research Methods and Approaches to Text Entry and Other Interaction Techniques *IDC School of Design, IIT Bombay, India* Host: Dr. Anirudha Joshi	05/2018
07	*The* Psychology *of Input and Interaction of/with Text and Numbers* *EECS Technical Seminar Series, UC Merced* Host: Dr. Sungjin Im	02/2018

06	Human-Computer Interaction Research Overview *FEAST Spring Series Seminar, UC Merced* Host: Dr. Joshua Viers	02/2018
05	Human-Computer Interaction Research Overview *Keysight Technologies, Santa Clara* Host: Dr. Kent Carey	10/2017
04	Efficient Text Entry and Smart Error Correction and Prevention *Concordia University, Montréal, Canada*	03/2016
03	Tangible User Interface: Leaving the Age of Isolation *McMaster University, Canada* Host: Dr. Robert J. Teather	11/2014
02	A New Gesture-based Graphical Keyboard *Microsoft Research, Redmond*	07/2012
01	Text Entry Nomadicity: Ambient Awareness, Handedness, and Error Adaptation *IIT Kharagpur, India* Host: Dr. Sayan Sarcar	12/2012

Research Grants

Does not include grants received as graduate student

External Research Grants

04	Faculty Early Career Development Program (**CAREER**) National Science Foundation (**NSF**) *CAREER: Inclusive, Private Mobile Input and Interaction Using Lip Reading* **PI**: Ahmed Sabbir Arif (Sole) UC Merced Newsroom Article 1 • Article 2	$ 636,286	2023 – 2028
03	Core Seed Award, **CITRIS** and the Banatao Institute *Restoring Speech Communication with a Multimodal Decoder-Synthesizer* **Lead PI:** Lee M. Miller, **PI:** Daniel John Cates, Ahmed Sabbir Arif Press Release	$ 60,000	2023 – 2024
02	Hellman Fellows Award, Hellman Fellows Program *Enabling Motor Impaired People to Input Text on Mobile and Wearable Devices* **PI**: Ahmed Sabbir Arif (Sole) UC Merced Newsroom Article	$ 50,000	2020 – 2022
01	ENGAGE, Natural Sciences and Engineering Research Council of Canada (**NSERC**) *Exploratory Analyses on How Users Adapt to a Faulty Unistroke-Based Gesture System* **PI**: Wolfgang Stuerzlinger, **Postdoc:** Ahmed Sabbir Arif	$ 25,000	2013

INTERNAL RESEARCH GRANTS

05	Senate Faculty Research Grant, UC Merced *Hampad: An Electromagnetic Tracking and Haptic Feedback System for Feet-based Interaction in Virtual Reality* **PI:** Hua Huang, **Co-PI:** Ahmed Sabbir Arif	$ 19,872	2024 – 2025
04	Renee and Mike Child Family Fund Seed Grant, UC Davis *Restoring Speech Communication with a Multimodal Decoder-Synthesizer* **PI:** Lee M. Miller, **Key Personnel:** Ahmed Sabbir Arif	$ 10,000	2022 – 2023
03	Senate Faculty Research Grant, UC Merced Smart *Kiosk for Raising Awareness of Recycling in the UC Merced Community* **PI:** Ahmed Sabbir Arif, **Co-PI:** Shijia Pan	$ 10,000	2022 – 2023
02	Senate Faculty Research Grant, UC Merced *Reducing the Interaction Ambiguity of Smartphones* **PI**: Ahmed Sabbir Arif (Sole)	$ 5,000	2020 – 2021
01	Senate Faculty Research Grant, UC Merced *Miniature Predictive Keyboards to Enable Eyes-free Text Entry on/with Smartwatches* **PI**: Ahmed Sabbir Arif (Sole)	$ 5,000	2017 – 2018

INTERNAL AWARDS & FELLOWSHIPS

03	Course Design Institute (**CDI**), Division of Undergraduate Education, UC Merced	$ 2000	2023
02	Professional Development Award (**Scott-Jewett Gift**), Committee on Faculty Welfare and Academic Freedom (FWAF), UC Merced	$ 5,000	2023
01	Faculty Success Initiative – Extramural Funding Fellowship, UC Merced	$ 3,000	2019 – 2020

TRAVEL GRANTS

03	CSforAll, National Network of Education Research-Practice Partnerships (**NNERPP**)	$ 3,000	2019
02	CISE CAREER Proposal Writing Workshop, National Science Foundation (**NSF**)	$ 1,100	2018
01	**IEEE** Systems, Man, and Cybernetics (**SMC**) Young Professionals Travel Grant	$ 500	2017

Teaching

Enrollment numbers are in brackets

UNDERGRAD COURSES

CSE 115: Discrete Mathematics (4 Units), UC Merced	Spring 2021 (150)
CSE 155: Introduction to Human-Computer Interaction (4 Units), UC Merced Fall 2024 (90) • Spring 2024 (150) • Spring 2023 (150) • Spring 2022 (150) • Fall 2020 (118) • Fall 2018 (29)	

CSE 1030: Introduction to Computer Science II (3 Credits), York University, Canada	Fall 2011 (75)
CPAN 240: Web Programming and Design (4 Credits), Humber College, Canada	Fall 2011 (54) • Fall 2010 (57)
GAME 231: Introduction to Internet Game Development (4 Credits)	Win 2012 (48) • Win 2011 (54)

GRAD COURSES

EECS 255: Advanced Human-Computer Interaction (4 Units), UC Merced
Fall 2023 (14) • Fall 2022 (6) • Spring 2020 (4) • Spring 2019 (7) • Spring 2018 (8)

EECS 289: Topics in Electrical Engineering & Computer Science (3 Units), UC Merced	Fall 2021 (11)
EECS 290: Electrical Engineering & Computer Science Seminar (1 Unit), UC Merced	Fall 2018 (36)

TEACHING ASSISTANT

RTA 995: Embodied Digital Media: Research/Design	Toronto Metropolitan University, Canada
MP 8995-021: Special Topics in Media Production	Toronto Metropolitan University, Canada
CSE 1020: Introduction to Computer Science I	York University, Canada
CSE 1520: Computer Use Fundamentals	York University, Canada
CS 1411: Computer Programming I	Lakehead University, Canada
CS 2412: Data Structure	Lakehead University, Canada
CS 5451: Advanced Multimedia Programming	Lakehead University, Canada
CS 2473: Introduction to Computer Architecture II	Lakehead University, Canada
CS 2477: Object Oriented Programming	Lakehead University, Canada

HOSTED DISTINGUISHED VISITORS: TALKS & GUEST LECTURES

Meghna Mehta, Senior UX Designer, Striim, (11/11/2024) • Dr. Mayra Donaji Barrera-Machuca, Dalhousie University, Canada (11/13/2024) • Dr. Tamanna Motahar, University of Washington (10/14/2024) • Dr. Antti Oulasvirta, Aalto University, Finland (10/07/2023) • Dr. Robert J. Teather, Carleton University, Canada (11/22/2021) • Dr. Md. Sami Uddin, McGill University, Canada (11/15/2021) • Dr. Ahmed Kharrufa, Newcastle University, UK (11/08/2021) • Dr. Xiaojun Bi, Stony Brook University (11/1/2021) • Dr. Sunjun Kim, DGIST, South Korea (10/25/2021) • Dr. Clara Mancini, The Open University, UK (10/18/2021) • Dr. Judith Amores, MIT Media Lab (10/11/2021) • Dr. Yubo Kou, Penn State University (10/4/2021) • Dr. Haisen Zhao, University of Washington (9/27/2021) • Dr. Foad Hamidi, University of Maryland, Baltimore County (9/20/2021) • Dr. Mahima Agumbe Suresh, San Jose State University (4/12/2019) • Dr. Rachel Ryskin, UC Merced (3/23/2021) • Dr. I. Scott MacKenzie, York University, Canada (2/22/2019) • Dr. Wolfgang Stuerzlinger, Simon Fraser University, Canada (2/8/2019) • Dr. Benjamin Tag, Keio University (1/25/2019) • Dr. LouAnne Boyd, Chapman University (11/30/2018) • Dr. Lisa Yeo, UC Merced (11/9/2018) • Dr. Hao-Chuan Wang, UC Davis (9/28/2018) • Dr. Ahmed Eldawy, UC Riverside (8/31/2018) • Dr. Vera Liao, IBM T. J. Watson Research Center (6/29/2018)

Current Students

PhD Students

Qhelile Ozias Sibanda, *Electrical Engineering & Computer Science*	01/2024 – Current
Jannatul Ferdous Srabonee, *Electrical Engineering & Computer Science*	08/2023 – Current
Ghazal Zand, *Electrical Engineering & Computer Science*. **Publications:** C46, C40	08/2020 – Current

MS Students

Lavanya Dalin Annappa, *Electrical Engineering & Computer Science*	08/2024 – Current
Khine Yin Mon, *Electrical Engineering & Computer Science*	08/2023 – Current
Hui Feng, *Electrical Engineering & Computer Science*	01/2024 – Current

Undergrad Interns

Emeka Sha, *BS in Computer Science & Engineering*	11/2024 – Current
Berrydal Moshe, *BS in Computer Science & Engineering*	08/2024 – Current

Alumni

Past PhD Students

04	Yuan Ren, *Electrical Engineering & Computer Science* **Dissertation:** *Text and Numerical Input on Mobile and Wearable Devices* **Publications:** A36, C44, C43, C41, C40, C39, C37 **Currently** Senior Software Engineer at **Boston Scientific**, Marlborough, MA	08/2019 – 04/2024
03	Tafadzwa Joseph Dube, *Electrical Engineering & Computer Science* **Dissertation:** *Integrating Wearable and Haptic Devices for Enhanced Input and Interaction in Virtual Reality* **Publications:** C47, C39, C22, A35, A33, A28 **Currently** Faculty at Cuesta College, San Luis Obispo, CA	08/2018 – 04/2028
02	Laxmi Pandey, *Electrical Engineering & Computer Science* **Dissertation:** *Lip Reading as an Active Mode of Interaction with Computer Systems* **Publications:** C45, C38, C34, C33, C31, C29, C28, A32, A31, A27, N04 **Currently** Senior Research Scientist at **Meta Research**, Menlo Park, CA	08/2018 – 08/2022
01	Gulnar Rakhmetulla, *Electrical Engineering & Computer Science* **Dissertation:** *Inclusive Text Entry Techniques for Mobile Devices* **Publications:** C43, C42, C36, C35, C30, A30, A24, N02 **Currently** Researcher at **International IT University**, Kazakhstan	01/2018 – 08/2022

Past MS Students

03	Prasanthi Vanga, *Electrical Engineering & Computer Science* **Project:** Wearable Technologies for Gestural Interaction in Virtual Reality **Currently** SQL Developer at **Solix Inc.**, Parsippany, NJ	08/2021 – 12/2022
02	Varnika Chauhan, *Electrical Engineering & Computer Science* **Project:** Novel Scanning Keyboards for People with Motor Impairments **Currently** Software Engineer at **Rakuten Americas**, San Mateo, CA	10/2021 – 12/2022
01	Satvik Kulshreshtha, *Electrical Engineering & Computer Science* **Thesis:** *A Tap-Based Back-of-Device Mobile Users Authentication System* **Publications:** C32, C23 **Currently** DevOps Engineer at **Apple**, Sunnyvale, CA	02/2018 – 06/2019

Past Assistant Specialists

02	Yuan Ren, *Electrical Engineering & Computer Science* **Publication:** C37 **Currently** Software Engineer at **Boston Scientific**, Marlborough, MA	05/2018 – 08/2019
01	Di "Chelsea" Sun, *Electrical Engineering & Computer Science* **Publication:** A29 **Currently** User Interface Designer at **IXL Learning**, San Mateo, CA	09/2017 – 01/2018

Past Graduate and Undergraduate Interns

22	Julia Wu, *BS in Computer Science & Engineering*	12/2023 – 07/2024
21	Serenity Bassett, *BS in Computer Science & Engineering*	05/2023 – 08/2023
20	Francisco Lira, *BS in Computer Science & Engineering*	05/2022 – 04/2023
19	Nikita Yadav, *BS in Computer Science & Engineering*	02/2022 – 04/2023
18	Kianna Ng, *BS in Computer Science & Engineering.* **Publication:** C44	10/2022 – 12/2022
17	David Yang, *BS in Computer Science & Engineering*	04/2022 – 12/2022
16	Wendy Haw, *BS in Computer Science & Engineering.* **Publication:** C44	06/2022 – 08/2022
15	Benita Onyenacho, *BS in Computer Science & Engineering*	05/2022 – 08/2022
14	Libanose Teffera, *BS in Computer Science & Engineering*	05/2022 – 08/2022
13	Kevin Johnson, *BS in Bioengineering.* **Publication:** A33	09/2019 – 05/2022
12	Brian Matamet Salas, *BS in Computer Science & Engineering*	10/2020 – 04/2021
11	Elizabeth Cancino-Perez, *BS in Computer Science & Engineering*	10/2020 – 12/2020
10	Carlos Jason Rocha, *BS in Computer Science & Engineering*	10/2020 – 12/2020
09	Sabir Kirpal, *BS in Computer Science & Engineering*	01/2020 – 06/2020
08	Mighty Chen, *BS in Computer Science & Engineering*	11/2019 – 05/2020

07	Abigail Plata, *BS in Computer Science & Engineering*. **Publication:** A36	09/2019 – 05/2020
06	Vaishnavi Melkote, *BS in Cognitive and Information Sciences.* **Publication:** A29	03/2020 – 12/2019
05	Mohammad A. Sharif, *BS in Computer Science & Engineering.* **Publication:** A30	01/2019 – 12/2019
04	Nanditha Embar, *BS in Computer Science & Engineering*	09/2018 – 05/2019
03	Akeiylah DeWitt, *BS in Cognitive and Information Sciences.* **Publication:** C27	09/2018 – 03/2019
02	Mudit Misra, *MS in Electrical Engineering & Computer Science.* **Publications:** C28	02/2018 – 09/2018
01	Azar Alizadeh, *PhD in Electrical Engineering & Computer Science.* **Publication:** C29	03/2018 – 09/2018

Past High School Interns

15	Advay Bajpai, *Foothill High School, Pleasanton, CA*	05/2024 – 08/2024
14	Mahika Khosla, *Leland High School, San Jose, CA*	05/2024 – 08/2024
13	Tanusha Kolli, *Merrill F. West High School, Tracy, CA*	05/2024 – 08/2024
12	Hasini Manda, *American High School, Fremont, CA*	05/2024 – 08/2024
11	Alexander T. Le, *Silver Creek High School, San Jose, CA*	05/2023 – 08/2023
10	Anaisha Das, *Dougherty Valley High School, San Ramon, CA*	05/2023 – 08/2023
09	Jay N. Parekh, *Evergreen Valley High School, San Jose, CA*	05/2023 – 08/2023
08	Tej Patel, *Troy High School, Fullerton, CA*	05/2023 – 08/2023
07	Shreyas Sharma, *Silver Creek High School, San Jose, CA*	05/2023 – 08/2023
06	Vaishali Jha, *Evergreen Valley High School, San Jose, CA*	06/2022 – 08/2022
05	Shreyas Sharma, *Silver Creek High School, San Jose, CA*	06/2022 – 08/2022
04	Arpana Koilada, *Evergreen Valley High School, San Jose, CA*	06/2022 – 08/2022
03	Veena Sumedh, *Mountain View High School, Mountain View, CA.* **Publication:** A36	06/2021 – 08/2021
02	Peter Ly, *Bellarmine College Preparatory (BCP), San Jose, CA.* **Publication:** A36	06/2021 – 08/2021
01	Anna-Maria Gueorguieva, *El Capitan High School, Merced, CA.* **Publication:** N02	06/2018 – 08/2018

Past Mentees

18	Syed Filza Tahir, *MSc in Electrical & Computer Engineering, Toronto Metropolitan University*	2017
17	Most H. Jahan, *MSc in Electrical & Computer Engineering, Toronto Metropolitan University*	2017
16	Sean DeLong, *BSc in Biomedical Engineering, Toronto Metropolitan University* **Publications:** C25, C16, C13, A19, A16	2016 – 2017
15	Zardar Khan, *BSc in Biomedical Engineering, Toronto Metropolitan University*	2015 – 2017
14	Shahin Khayyer, *BSc in Biomedical Engineering, Toronto Metropolitan University*	2015 – 2016
13	Karanjeet Chabra, *MSc in Computer Engineering, Toronto Metropolitan University*	2014 – 2015
12	Kelly Stinton, *BA in Media Studies, Toronto Metropolitan University*	2015

11	Gordon Walker, *MSc in Biomedical Engineering, Toronto Metropolitan University*	2015
10	Caylen Patience, *BA in Interior Design, Toronto Metropolitan University*	2014
09	Jenna Gibbons, *BA in Interior Design, Toronto Metropolitan University*	2014
08	Chelsea Sun, *MS in Human-Computer Interaction, Georgia Institute of Technology*	2017
07	Meghna Mehta, *MS in Computer Science, Georgia Institute of Technology*. **Publication:** C16	2015 – 2016
06	Manasvi M. Lalwani, *MS in Human-Computer Interaction, Georgia Institute of Technology* **Publications:** C16, A19	2014 – 2016
05	Apurva Gupta, *MS in Human-Computer Interaction, Georgia Institute of Technology* **Publications:** C16, A19	2014 – 2016
04	Euclides Jose de M. Filho, *MSc in Computer Science (Exchange), Federal University of Bahia, Brazil* **Publications:** A05, A04	2014 – 2015
03	Abid Peracha, *BSc in Computer Science & Engineering, York University*	2013
02	Benedikt Iltisberger, *MSc in Computer Science (Exchange), Hochschule Bonn-Rhein-Sieg, Germany* **Publication:** C05	2010
01	Mauricio H. Lopez, *BSc in Computer Science & Engineering, York University*. **Publication:** A01	2010

Thesis & Dissertation Committees

11	Achint Sharma, *PhD in Cognitive & Information Sciences, UC Merced*	Current
10	Miguel Angel Castro Perez, *PhD in Electronics & Telecommunications, CICESE, Ensenada, Mexico*	Current
09	Younce Yan, *PhD in Electrical Engineering & Computer Science, UC Merced*	Current
08	Wyssanie Chomsin, *MS in Electrical Engineering & Computer Science, UC Merced*	Current
07	Brian Matamet Salas, *MS in Electrical Engineering & Computer Science, UC Merced* **Project:** *Identifying Sub Optimal Query Plans in Microsoft SQL Server*	Current
06	Shrishail Baligar, *PhD in Electrical Engineering & Computer Science, UC Merced* **Dissertation:** *Context-Aware Modelling of Speech and Non-Speech Audio Source Separation and Detection*	Current
05	Xiumin Shang, *PhD in Electrical Engineering & Computer Science, UC Merced* **Dissertation:** *Building Virtual Assistive Agent with Reinforcement Learning Approach*	2023
04	Ritesh Sharma, *PhD in Electrical Engineering & Computer Science, UC Merced* **Dissertation:** *Navigation Structures for Flows, Formations and Decision Boundaries*	2022
03	Neelam Sinha, *MS in Electrical Engineering & Computer Science, UC Merced* **Project:** *Predicting Drug Response in Cancer Patient Using Supervised Learning*	2020
02	Yusuke Niiro, *MS in Electrical Engineering & Computer Science, UC Merced* **Project:** *3D Facial Animation Based on Expression*	2019
01	Mudit Misra, *MS in Electrical Engineering & Computer Science, UC Merced* **Project:** *Automated Abnormality Detection in X-Ray Images: The Costs & Benefits of Category-Specific Training*	2019

Service

A red asterisk* signifies activities promoting diversity, equity, & inclusion

UC Merced Campus

The Generation Bridge (Student Club)*	Faculty Advisor	SINCE 10/2019
Graduate Council (**GC**)	Member	08/2019 – 08/2020
Periodic Review Oversight Committee (**PROC**)*	D&E Liaison	08/2018 – 08/2019
Divisional Council (**DivCo**)*	D&E Liaison	08/2018 – 08/2019
Committee for Diversity and Equity (**D&E**)*	Member	08/2018 – 08/2019

School of Engineering

Undergraduate Research Opportunities Center (**UROC**)	Mentor	SINCE 05/2022
Innovate to Grow – Spring 2022 (**Engineering Capstone**)	Moderator	05/13/2022
CodePath Demo Day – Spring 2022	Judge	04/30/2022
Innovate to Grow – Spring 2020 (**Engineering Capstone**)	Judge	12/18/2020
Synopsys Recruiters and Faculty Leaders Lunch Meeting	Attendee	02/13/2019

Computer Science & Engineering

TA Committee	Member	SINCE 01/2024
Faculty Search Sub-Committee: CGA, VR/AR, GC, SE, PL	Member	10/2023 – 05/2024
EECS Admissions Committee	Member	08/2021 – 08/2023
Faculty Search Sub-Committee: Graphics and Animation	Member	09/2022 – 05/2023
EECS GRAD-EXCEL Peer Mentorship Program*	Mentor	08/2018 – 08/2021
Faculty Search Sub-Committee: SE, PL, OS	Member	09/2021 – 05/2022
Faculty Search Sub-Committee: Systems	Member	09/2020 – 05/2021
Faculty Search Sub-Committee: DS, AI	Member	09/2019 – 05/2020

York University, Canada

CSE Graduate Student Association (**CSE-GSA**)	Vice President	09/2009 – 08/2010
Graduate Students' Association (**GSA**)	Member	09/2009 – 08/2010

Professional Service

Participation numbers are in brackets. A red asterisk* signifies activities promoting diversity, equity, & inclusion

National Science Foundation (NSF) Panels

2024 (5), 2023 (1), 2022 (1)

Editorial Board & Senior Program Committee

ACM International Conference on Interactive Surfaces and Spaces (**ISS**)	2021, 2022, 2023
ACM International Conference on Intelligent User Interfaces (**IUI**)	2023, 2024

Organizing & Recognizing Committee

Workshop & Tutorial Co-Chair, The 2024 ACM Interactive Surfaces and Spaces Conference (**ISS**)	2024
Papers Co-Chair, Graphics Interface Conference (**GI**)	2021
Diversity & Inclusion Recognition Committee, ACM Designing Interactive Systems (**DIS**)*	2021
Workshop & Tutorial Co-Chair, International Conference on Mobile & Ubiquitous Multimedia (**MUM**)	2020

Program Committee

ACM International Conference on Human Computer Interaction with Mobile Devices and Services (**MobileHCI**)	2015, 2018
ACM International Conference on Intelligent User Interfaces (**IUI**)	2019 – 2021
ACM International Conference on Interactive Experiences for Television & Online Video (**TVX**)	2018
ACM International Conference on Interactive Surfaces and Spaces (**ISS**)	2017 – 2023
ACM Conference on Computers and Accessibility (**ASSETS**)	2024
ACM Conference on Human Factors in Computing Systems (**CHI**) WIP/LBW	2015, 2016
ACM Conference on Human Factors in Computing Systems (**CHI**) Workshop	2017
ACM Conference on Human Factors in Computing Systems (**CHI**)	2021, 2022, 2024, 2025
ACM Designing Interactive Systems (**DIS**)	2021, 2023 – 2025
Australasian User Interface Conference (**AUIC**)	2015 – 2017
European Conference on Ambient Intelligence (**AmI**)	2018
IEEE International Conference on Systems, Man, and Cybernetics (**SMC**)	2017, 2018

Workshop Co-Organizer

MobileHCI Workshop on TEXT2030 - Shaping Text Entry Research in 2030*	2022
MobileHCI Workshop on Socio-Technical Aspects of Text Entry*	2018
CHI Workshop on Ubiquitous Text Interaction	2017
CHI Workshop on Inviscid Text Entry and Beyond	2016

TEI Workshop on Developing Responsive and Interactive Environments with the ROSS Toolkit	2016
CHI Workshop on Text Entry on the Edge	2015
MobileHCI Invited Tutorial on Mobile-Based Tangible Interaction Techniques for Shared Displays	2014

SESSION CHAIR

IEEE Conference on Telepresence (**TELEPRESENCE**) **Session:** *UI Design and Human-In-The-Loop Control*	2024
ACM Conference on Human Factors in Computing Systems (**CHI**) **Session:** *Accessible Interaction Techniques B*	2023
ACM Interactive Surfaces and Spaces Conference (**ISS**) **Session**: *Mobile*	2022
ACM Conference on Human Factors in Computing Systems (**CHI**) **Session:** *Text & Pen*	2022
ACM Conference on Human Factors in Computing Systems (**CHI**) **Session:** *Interaction Techniques/Sketch and Illustration/Privacy A* **Session:** *Input/Spatial Interaction/Practice Support B*	2021
IEEE International Conference on Systems, Man, and Cybernetics (**SMC**) **Session:** *Human-Computer Interaction*	2020
International Conference on Human-Computer Interaction (**HCII**) **Session:** *Design Case Studies*	2019
ACM Conference on Human Factors in Computing Systems (**CHI**) **Session:** *Buttons, Targets, Sliders*	2018
International Conference on Human-Computer Interaction (**HCII**) **Session:** *Mobile Input*	2016

REVIEWER: CONFERENCE

ACE 2014; **APCHI** 2012; **C&C** 2017; **CHI** 2012-2021; **CHI PLAY** 2014-2016; **CSCW** 2016; **DIS** 2016, 2017; **EICS** 2013, 2015; **GI** 2013, 2016, 2017, 2019, 2021; **ICPR** 2012; **IDC** 2015, 2017; **IDHF** 2014; **ISS** 2012, 2014, 2016-2019; **ISMAR** 2024; **IUI** 2013, 2015, 2019; **MobileHCI** 2012-2015, 2017-2018, 2020; **NordiCHI** 2016; **OzCHI** 2021; **SUI** 2014-2016, 2020; **TEI** 2015-2018, 2020; **TVX** 2014, 2015, 2018; **UIST** 2013-2021, 2023-2024; **IEEE Telepresence** 2024; **IEEE VR** 2021; **VRST** 2016

SPECIAL RECOGNITIONS FOR OUTSTANDING REVIEWS

UIST 2024; **DIS** 2024; **IUI** 2024; **MobileHCI** 2020; **CHI** 2018; **CHI PLAY** 2014

REVIEWER: JOURNAL

AHCI 2023; **CMPB** 2015; **Ergonomics** 2023; **IJHCI** 2020, 2022, 2023; **IJHCS** 2011, 2012, 2014-2017, 2023; **IJIE** 2017; **JAIHC** 2017; **JIST** 2018, 2020; **THMS** 2015, 2016, 2023; **TIJR** 2017; **TOCHI** 2016, 2019, 2021-2024; **VRIH** 2022

STUDENT VOLUNTEER

ACM Conference on Human Factors in Computing Systems (**CHI**) 2011

Outreach Activities

A red asterisk* signifies activities promoting diversity, equity, & inclusion

Computer Science 4 Me (**CS4ME**) Lab Visit and Demonstration, UC Merced*	Co-host	04/09/2022
Mariposa High School Students' Lab Tour, UC Merced	Co-host	02/24/2020
Congressmen Jim Costa's Lab Visit, UC Merced	Host	02/02/2020
Meetings with Congressmen Jim Costa and Jerry McNerney, UC Merced	Participant	01/15/2020
Center of Vision Enhancement (**COVE**) Vision Fair, Merced County*	Exhibitor	10/2019
Science & Tech Enrichment Program (**STEP**) for High School Students, UC Merced*	Mentor	2018 –2018
Research Opportunity Program in Engineering (**ROPE**) for Female High School Students, Toronto Metropolitan University, Canada*	Mentor	2016 –2017
Spring Gala Open House for High School Students, York University, Canada	Exhibitor	03/2010
YFS $15,000 for Haiti Campaign for Doctors Without Borders, York University, Canada	Volunteer	01/2010
Trent International Program (**TIP**) Flag Project, Trent University, Canada*	Volunteer	2003 – 2004