

Maryam Bandukda

✉ m.bandukda@ucl.ac.uk |  maryambandukda |  @marybee |  <http://maryambandukda.net>

SUMMARY

- Early career researcher in human-computer interaction (HCI), researching accessibility and assistive technologies for enhancing experiences of blind and partially sighted people in outdoor open spaces.
- 10 years industry experience in software development, project management, and business analysis.
- Teaching and mentorship experience: HCI, systems engineering, assistive technologies, programming.
- Research skills: qualitative and ethnographic research methods (interviews, focus groups, contextual inquiry, diary studies), participatory design research, and quantitative research methods (experiments, survey, statistical analysis)
- Technical skills: HTML, Javascript, CSS, python, 3D printing, laser cutting, physical computing and prototyping, sketching and digital prototyping.
- Research interests: participatory research and design, disability studies, social equity and inclusion.

EDUCATION

- 2017
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2021 **PhD Human-Computer Interaction and Assistive Technologies**
University College London Interaction Centre (UCLIC) and
Global Disability Innovation Hub (GDI Hub)
- Thesis: Technology-mediated outdoor experiences for blind and partially sighted people
 - Funded by Engineering and Physical Sciences Research Council (EPSRC)
 - Research Committee: Prof. Catherine Holloway, Prof. Nadia Berthouze, Dr. Aneesha Singh
- 2016
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2017 **MSc Human-Computer Interaction**
UCLIC
- Assistive technologies, physical computing, interaction design, and affective computing
 - Thesis: A contextual inquiry of blind navigation at Queen Elizabeth Olympic Park
 - Advisor: Prof. Catherine Holloway
- 2008
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2010 **MSc Software Project management**
National University of Computing and Emerging Sciences (NUCES), Pakistan
- Organisational behaviour, marketing management, software project and process management, research methods
 - Thesis: Efficacy of distributed pair programming: A literature review
 - Advisor: Prof. Zafar Nasir
- 2003
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2006 **BSc Computer Science**
University of Karachi, Pakistan

PUBLICATIONS

Conference and Journal Papers

- [P.1] **Maryam Bandukda**, Catherine Holloway, Aneesha Singh, Nadia Berthouze. PLACES: A Framework for Supporting Blind and Partially Sighted People in Outdoor Leisure Activities (**Best Paper Nominee**) ASSETS2020 – 22nd International ACM SIGACCESS Conference on Computers and Accessibility, October 26 – 28, 2020, Athens, Greece.

Peer Reviewed Extended Abstracts, Doctoral Consortium, and Workshop Papers

- [EA.5] **Maryam Bandukda**, Aneesha Singh, Catherine Holloway, Nadia Berthouze. *Rethinking the Senses: A Workshop on Multisensory Embodied Experiences and Disability Interactions.*, ACM CHI 2021.
- [EA.4] **Maryam Bandukda**. *Multisensory AR for face-to-face interactions: Enhancing social interactions through multisensory feedback for people with disabilities.* Position Paper submitted to CSCW'20 Workshop "The Future of Social AR: Reimagining and Interrogating the Role of Augmented Reality in Face to Face Social Interactions".
- [EA.3] **Maryam Bandukda**, Catherine Holloway. *Audio AR Audio AR to support nature connectedness in people with visual disabilities.* UbiComp-ISWC '20: Adjunct Proceedings of the 2020 ACM International Joint Conference on Pervasive and Ubiquitous Computing and Proceedings of the 2020 ACM International Symposium on Wearable Computers September 2020 Pages 204–207 <https://doi.org/10.1145/3410530.3414332>.
- [EA.2] **Maryam Bandukda**. *Technology-Mediated Nature Interactions for Blind and Partially Sighted People.* Doctoral Consortium at the 21st International ACM SIGACCESS Conference on Computers and Accessibility, October 25 – 30, 2019, Pittsburgh, PA, USA.
- [EA.1] **Maryam Bandukda**, Aneesha Singh, Nadia Berthouze, and Catherine Holloway. *Understanding Experiences of Blind Individuals in Outdoor Nature.* CHI EA '19: Extended Abstracts of the 2019 CHI Conference on Human Factors in Computing Systems May 2019 Pages 1–6 <https://doi.org/10.1145/3290607.3313008>

Posters and Talks

- [T.7] Invited Presentation: Supporting ways for blind and partially sighted people to co-create and share their leisure experiences, HabilitationVI UK Conference 2021.
- [T.6] Invited Guest Lecture: Conducting qualitative research with disabled people, MSc Disability Design & Innovation, UCL
- [T.5] Poster presentation: Technology-Mediated Nature Interactions for Blind and Partially Sighted People, ASSETS'19, Pittsburgh, PA, USA.
- [T.4] Poster presentation: Open space accessibility for people with severe sight loss at International Conference of Navigation, 2019, Edinburgh, UK
- [T.3] Presentation at UCLIC Annual PhD Showcase, 2019, London, UK
- [T.2] Poster presentation at UCLIC Annual PhD Showcase, 2018, London, UK
- [T.1] Poster presentation at Sensing Nature: Wellbeing with nature and sight impairment, 2018, London, UK

AWARDS

- 2020 UCL East Community Partnership Building Funding
- 2020 UCL Engagement Beacons Bursary
- 2019 SIGACCESS Doctoral Consortium Travel Grant for ASSETS 2019 Conference
- 2017 EPSRC Doctoral Training Program PhD Studentship

ACADEMIC AND RESEARCH EXPERIENCE

UCL Project Mentoring and Supervision

2020 **MSc Dissertation**
Understanding the experiences of blind and partially sighted people with voice-enabled virtual assistants: a qualitative research study (survey and diary study)

UCL Postgraduate Research Assistant (PGRA)

2020 **AT2030 Impact Fund**
Qualitative research (semi-structured interviews) with stakeholders (Assistive Technology innovation companies and Grant team) to study innovation and AT entrepreneurship ecosystems and understand the expectations of people involved, their perceptions, and their experience of the AT Impact Fund.

2018 **WeDraw Project**
Video analysis (annotations) investigating confidence through children's behaviour when learning arithmetic and geometric concepts on WeDraw project (<https://www.wedraw.eu/>).

UCL Postgraduate Teaching Assistant (PGTA)

2021 **FUTURE INTERFACES**
Module leader: Aneesha Singh
Creating class activity materials, facilitating group discussions in class and mentoring students on group projects.

2021 **AFFECTIVE INTERACTION**
Module leader: Prof. Nadia Berthouze
Led ethics for student participation in class activities and student research projects, creating class activity materials, facilitating group discussions in class and mentoring students on group projects.

2021,
2019,
2018 **ACCESSIBILITY AND ASSISTIVE TECHNOLOGIES**
Module Leader: Prof. Catherine Holloway
Organising and facilitating guest lectures on topics related to accessibility and assistive technologies (AAT), mentoring students on conducting user research and design related to AAT.

Led ethics for student participation in class activities and student research projects, creating class activity materials, facilitating group discussions in class and mentoring students on group projects.

2020 **INTERACTION DESIGN**
Module Leader: Nicolai Marquardt
Supporting delivery of lectures on user-centred design (UCD) topics including user research and analysis, iterative prototype design and evaluation, and mentoring students on group projects.

2019,
2018 **HUMAN-COMPUTER INTERACTION**
Module Leader: Chris Evans
Teaching HCI lab sessions for 2nd year CS undergrad students including user research, sketching, personas, low and high-fidelity prototyping and mentoring for 10 team projects

2021,
2019,
2018 **ACCESSIBILITY AND ASSISTIVE TECHNOLOGIES**
Module Leader: Prof. Catherine Holloway
Organising and facilitating guest lectures on topics related to accessibility and assistive technologies (AAT), mentoring students on conducting user research and design related to AAT.

Led ethics for student participation in class activities and student research projects, creating class activity materials, facilitating group discussions in class and mentoring students on group projects.

2019 **SYSTEMS ENGINEERING**
Module Leader: Sarah Sanders

Mentoring 3rd year undergrad CS students on group projects including product research, requirement gathering, and iterative design

ACADEMIC & VOLUNTARY SERVICE

- 2020- **Welfare Officer | Student Parents and Carers (SPAC) Society | UCL Students Union**
2021 Signposting support and wellbeing resources for society members, advocating for inclusion and support for students with caring responsibilities through campaigning and representing SPAC at various student and staff events, organised an online training for the current academic representatives focusing on students with caring responsibilities.
- 2020 - **Associate Chair (AC)**
2021 Late-Breaking Work, ACM CHI 2020, CHI 2021
- Student Volunteering**
ACM UbiComp 2019, IDC 2020, MobileHCI 2020
- 2019 - **Reviewer**
2020 ACM CHI, CHI PLAY, CSCW, IDC, ASSETS
- 2018 - **Postgraduate Academic Student Representative**
2020 Organising academic and social events for students, representing postgraduate students at Staff-Student Consultative Committee (SSCC) meetings, communicating student concerns to department administration, advocating for diversity and inclusion in the department.
- 2019 **My Guide at Guide Dogs for the Blind Association | London**
Befriending people with sight loss, sight guiding, and supporting them in physical activities and communication as and when needed. Part of my role also involves safeguarding and reporting to volunteer manager.
- 2018 **Volunteer at Royal Society for Blind Children | London**
Sighted guiding children and young people, safeguarding, and supporting them in physical activities and communication as and when needed.

ACADEMIC AND PUBLIC ENGAGEMENT

- 2021 **Rethinking the Senses: Workshop on Embodied Experiences and Disability Interactions | ACM CHI**
Lead organiser and author for the ACM CHI'21 workshop
- 2021 **EPSRC UCL East Community Partnership Building | UCL Engagement**
Secured £1,000 UCL Public Engagement & EPSRC joint funding to conduct an online workshop on opportunities for inclusive outdoor activities for blind and partially sighted youth (16-25yrs) in east London.
- 2021 **Public Engagement and Science Communication for PhD Students | UCLIC & GDI Hub**
Secured £400 funding from UCLIC and GDI Hub for a webinar and communication event for PhD students to learn public engagement and science communication best practices and applying these techniques in their own work.
- 2020 **PhD Careers Panel | UCLIC**
Organised and chaired a panel discussion with UCLIC PhD alumni on potential career options for PhD students.

INDUSTRY EXPERIENCE

- 2019 **Academic Research Communication Liaison | GDI Hub, London**
Liaising between the GDI Hub academic research group and communication and engagement teams to help manage publication of academic research on GDI Hub and UCL communication platforms and providing technical support to the communications team for managing GDI Hub website.
- 2015 – **Business Analyst | SpringerNature, London**
2016 Creating business process workflows, defining project requirements, stakeholder management, facilitating project inception workshops

- 2013 – **Project Manager / Scrum Master | SpringerNature, London**
2015 Used Agile methodologies for project management of various projects at NPG, Springer Healthcare, and BiomedCentral.
- 2011 – **Digital Project Manager | London**
2013 Various digital project management positions working on digital marketing campaigns, websites, and mobile apps. Responsibilities included account management, requirements gathering and product backlog management, sketching wireframes, a bit of programming, and project delivery.
- 2010 **Technical Project Manager | Creative Chaos, Karachi**
Stakeholder management, requirements gathering, and leading the design, development and delivery of various web-based projects.
- 2007 – **Developer | Creative Chaos, Karachi**
2009 Full stack web development, CSS, HTML, Javascript, PHP, ASP.net, C#, Java, MySQL, SQL Server.