

João Guerreiro

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Summary

João Guerreiro is a post-doctoral fellow at Carnegie Mellon University, working with Chieko Asakawa and Kris Kitani from the Robotics Institute. He received his Ph.D. in Information Systems & Computer Engineering from the Instituto Superior Técnico (IST), University of Lisbon, advised by Daniel Gonçalves. In his thesis, he studied the perception of concurrent speech by blind people in order to improve their efficiency when scanning for digital content. He holds BSc and MSc degrees in Computer Science from IST, UL. His main research interests include human-computer interaction, accessibility and artificial intelligence. His experience in other research projects include: Collaborative virtual environments; personal information management and visualization; and methods for braille input and output.

Education

Ph.D. in Information Systems and Computer Engineering, IST - Technical University of Lisbon (2010-2016)

Enhancing Blind People's Information Scanning with Concurrent Speech **Summa Cum Laude**

Advisor: Daniel Gonçalves

M.Sc. in Information Systems and Computer Engineering, IST - Technical University of Lisbon (2007-2009)

Extracting and Relating Relevant Personal Information from Heterogeneous Sources

Advisor: Daniel Gonçalves

B.Sc. in Information Systems and Computer Engineering, IST - Technical University of Lisbon (2004-2007)

Awards

ITS 2015 Best Paper Award: The ACM International Conference on Interactive Tabletops and Surfaces (ITS), 2015, with **Blind People Interacting with Large Touch Surfaces: Strategies for One-handed and Two-handed Exploration**. Tiago Guerreiro, Kyle Montague, João Guerreiro, Rafael Nunes, Hugo Nicolau and Daniel Gonçalves.

CHI 2014 Best Paper Award: *The* ACM CHI Conference on Human Factors in Computing Systems (CHI), 2014, with **B#: Chord-based Correction for Multitouch Braille Input**. Hugo Nicolau, Kyle Montague, Tiago Guerreiro, João Guerreiro and Vicki Hanson.

Google Student Award: International Cross-Disciplinary Conference on Web Accessibility (W4A), 2013, with my PhD research statement - **Using Simultaneous Audio Sources to Speed-Up Blind People's Web Scanning**

SIGACCESS Scholarship in Computers and Accessibility: This award enabled me to attend the ACM SIGACCESS International Conference on Computers and Accessibility (ASSETS), in October, 2013.

Publications

Peer-reviewed International Conferences

2017 (2)

1. **Virtual Navigation for Blind People: Building Sequential Representations of the Real World**
João Guerreiro, Dragan Ahmetovic, Kris Kitani and Chieko Asakawa
Proceedings of ACM SIGACCESS International Conference on Computers and Accessibility (ASSETS), 2017.
2. **In-Context Q&A to Support Blind People Using Smartphones**
André Rodrigues, Kyle Montague, Hugo Nicolau, João Guerreiro, Tiago Guerreiro
Proceedings of ACM SIGACCESS International Conference on Computers and Accessibility (ASSETS), 2017.

2016 (2)

3. **Scanning for Digital Content: How Blind and Sighted People Perceive Concurrent Speech**
João Guerreiro and Daniel Gonçalves
ACM Transactions on Accessible Computing (TACCESS), Vol 8, Issue 1, Article 2), 2016
4. **Towards Inviscid Text-Entry for Blind People through Non-Visual Word Prediction Interfaces**
Kyle Montague, João Guerreiro, Hugo Nicolau, Tiago Guerreiro, André Rodrigues and Daniel Gonçalves
CHI Workshop on Inviscid Text-Entry and Beyond, 2016.

2015 (3)

5. **Faster Text-to-Speeches: Enhancing Blind People's Information Scanning with Faster Concurrent Speech**
João Guerreiro and Daniel Gonçalves
Proceedings of ACM SIGACCESS International Conference on Computers and Accessibility (ASSETS), 2015.
6. **Blind People Interacting with Large Touch Surfaces: Strategies for One-handed and Two-handed Exploration**
Tiago Guerreiro, Kyle Montague, João Guerreiro, Rafael Nunes, Hugo Nicolau and Daniel Gonçalves
Proceedings of the ACM International Conference on Interactive Tabletops and Surfaces (ITS), 2015.
7. **Tablets Get Physical: Non-Visual Text Entry on Tablet Devices**
João Guerreiro, André Rodrigues, Kyle Montague, Tiago Guerreiro, Hugo Nicolau and Daniel Gonçalves
Proceedings of the ACM Conference on Human Factors in Computing Systems (CHI), 2015.

2014 (4)

8. **Text-to-Speeches: Evaluating the Perception of Concurrent Speech by Blind People**
João Guerreiro and Daniel Gonçalves
Proceedings of ACM SIGACCESS International Conference on Computers and Accessibility (ASSETS), 2014.
9. **The Use of Concurrent Speech to Enhance Blind People's Scanning for Relevant Information**
João Guerreiro
(Poster) Doctoral Consortium of the ACM SIGACCESS International Conference on Computers and Accessibility (ASSETS), 2014.
10. **B#: Chord-based Correction for Multitouch Braille Input** Best Paper Award
Hugo Nicolau, Kyle Montague, Tiago Guerreiro, João Guerreiro and Vicki Hanson
Proceedings of the ACM CHI Conference on Human Factors in Computing Systems (CHI), 2014.

11. Beyond Post-It: Structures Multimedia Annotations for Collaborative VEs

João Guerreiro, Daniel Medeiros, Daniel Mendes, Maurício Sousa, Joaquim Jorge, Alberto Raposo and Ismael Santos

Proceedings of International Conference on Artificial Reality and Telexistence - Eurographics Symposium on Virtual Environments (ICAT-EGVE), 2014

2013 (8)

12. Augmenting Braille Input through Multitouch Feedback

Hugo Nicolau, Kyle Montague, João Guerreiro, Diogo Marques, Tiago Guerreiro, Craig Stewart and Vicki Hanson

(Poster) Adjunct Proceedings of the ACM Symposium on User Interface Software and Technology (UIST), 2013.

13. The Today and Tomorrow of Braille Learning

João Guerreiro, Daniel Gonçalves, Diogo Marques, Tiago Guerreiro, Hugo Nicolau and Kyle Montague

(Poster) Proceedings of the ACM SIGACCESS International Conference on Computers and Accessibility (ASSETS), 2013.

14. UbiBraille: Designing and Evaluating a Vibrotactile Braille-Reading Device

Hugo Nicolau, João Guerreiro, Tiago Guerreiro and Luís Carriço

Proceedings of the ACM SIGACCESS International Conference on Computers and Accessibility (ASSETS), 2013.

15. Using Simultaneous Audio Sources to Speed-Up Blind People's Web Scanning Google Student Award

João Guerreiro

Proceedings of the International Cross-Disciplinary Conference on Web Accessibility (W4A), 2013.

16. Blind People Interacting with Mobile Social Applications: Open Challenges

João Guerreiro and Daniel Gonçalves

Mobile Accessibility Workshop at the SIGCHI Conference on Human Factors in Computing Systems (CHI), 2013.

17. Stressing the Boundaries of Mobile Accessibility

Hugo Nicolau, João Guerreiro and Tiago Guerreiro

Mobile Accessibility Workshop at the SIGCHI Conference on Human Factors in Computing Systems (CHI), 2013.

18. "Tell Me What I Want to Know!": The Effect of Relationship Closeness on the Relevance of Profile Attributes

João Guerreiro and Daniel Gonçalves

Proceedings of the ACM Conference on Hypertext and Social Media (HT), 2013.

19. Towards a Fair Comparison between Name Disambiguation Approaches

João Guerreiro, Daniel Gonçalves and David Martins de Matos

Proceedings of Open research Areas in Information Retrieval Conference, 2013

2012 (3)

20. "Ten Things I Want to Know about You": Unveiling Friend's Attribute Relevance

João Guerreiro and Daniel Gonçalves

(Poster) Proceedings of the European Conference on Cognitive Ergonomics (ECCE), 2012.

21. Visualiz'em: "Show me more about him!"

João Guerreiro and Daniel Gonçalves

Proceedings of the ACM Conference on Advanced Visual Interfaces (AVI), 2012.

22. PersonalWeb: An Extensible Framework to Recommend Web and Personal Information

João Guerreiro, Juliana Gomes and Daniel Gonçalves

Proceedings of the ACM Conference on Intelligent User Interfaces (IUI) – Workshop on Context-Awareness in Retrieval and Recommendation, 2012.

2010 (2)

23. Surpassing Farley Files: Opportunities and Challenges on Obtaining Personally Relevant Information

João Guerreiro, Tiago Guerreiro and Daniel Gonçalves

(Poster) Proceedings of the ACM Conference on Mobile Human Computer Interaction (Mobile HCI), 2010.

24. Relating Personally Relevant Social Information from Heterogeneous Sources

João Guerreiro, Tiago Guerreiro and Daniel Gonçalves

Proceedings of the ACM Conference on Intelligent User Interfaces (IUI) - International Workshop on User Data Interoperability in the Social Web, 2010.

Students Co-Supervised

1. Juliana Gomes, Master Student, 2010-2011.
2. Filipe Brito, Master Student, 2012-2013.
3. Sofia Penaforte, Master Student, 2012-2014.

Teaching Experience

2013/2014

Teaching Assistant of "Interfaces Pessoa-Máquina" – Human-Computer Interaction course **3th Year course, Summer 2013, DEI/LEIC/IST.**

2009/2010

Teaching Assistant of "Portfolio Pessoal III" – Personal Portfolio course **4th Year course, Winter 2009, DEI/MEIC/IST.**

Teaching Assistant of "Portfolio Pessoal IV" – Personal Portfolio course **4th Year course, Summer 2010, DEI/MEIC/IST.**

Service to My Field

Conference Committee

1. Student Volunteers Chair, ACM SIGACCESS Conference on Computers and Accessibility, ASSETS'15 (2015)

Program Committee

1. SIGCHI Conference on Human Factors in Computing Systems (CHI) – Papers and Notes, 2017 (Associate Chair)
2. ACM Conference on Intelligent User Interfaces (IUI): 2016
3. Portuguese Conference on Computer Graphics and Human-Computer Interaction: 2016,2017
4. The 12th Web for All Conference (W4A): 2015.
5. International Conference on Building and Exploring Web Based Environments (WEB): 2013-2016.
6. Workshop on Mobile Accessibility @ SIGCHI Conference on Human Factors in Computing Systems (CHI): 2013.

Peer Reviewing

1. SIGCHI Conference on Human Factors in Computing Systems (CHI) – Papers and Notes, 2015-2017.
2. The ACM Symposium on User interface Software and Technology (UIST): 2017

3. IEEE Transactions on Learning Technologies: 2017
4. ACM Transactions on Accessible Computing (TACCESS): 2016, 2017
5. ACM Conference on Intelligent User Interfaces (IUI): 2012, 2016
6. Portuguese Conference on Computer Graphics and Human-Computer Interaction: 2016,2017
7. The 12th Web for All Conference (W4A): 2015
8. International Conference on Building and Exploring Web Based Environments (WEB) 2013-2016.
9. Workshop on Mobile Accessibility @ SIGCHI Conference on Human Factors in Computing Systems (CHI): 2013.
10. SIGCHI Conference on Human Factors in Computing Systems (CHI) – Works In Progress: 2013.
11. Brazilian Symposium on Human Factors in Computer Systems: 2013

Student Volunteer

1. International Conference on Intelligent User Interfaces (IUI): 2012
2. Interact: 2011

Invited Talks

1. **Enhancing Blind People's Information Scanning with Concurrent Speech.**
PhD Open Days - Instituto Superior Técnico, Lisboa, 2016
2. **Enhancing Blind People's Information Scanning with Concurrent Speech.**
University of Dundee, 2016
3. **Enhancing Blind People's Information Scanning with Concurrent Speech.**
Workshop on Visually-Impaired access to Visualized Data, Edinburgh, 2015
4. **Enhancing Blind People's Information Scanning with Concurrent Speech.**
PhD Day – Instituto Superior Técnico, Lisboa, 2013

Research Grants and Projects

Fellowships

1. PhD Fellowship granted by the Portuguese Science Foundation: **March 2010 – February 2014**
2. Research Fellowship granted by INESC-ID and the Portuguese Science Foundation – **January 2015 – December 2015**

Software Developer

1. INESC-ID, Troc@s Project – Developing a Multimedia Framework for the Improvement of Communication Competences of Autistic Children: **December 2011 – May 2012**
Project Supported by Fundação Portugal Telecom, ASUS, INESC-ID among others.

Research Assistant

1. INESC-ID, CEDAR Project – Collaborative Engineering Design and Review: **March 2014 – June 2014**

2. INESC-ID, CluTCh Project – Collaborative Three-D Construction: **July 2014 – December 2014**
3. INESC-ID, LAW-TRAIN Project – Mixed-Reality Environment for Training Teams in Joint Investigative Interrogation – Intelligent Interrogation Training Simulator: **January 2016 – June 2016**

Technical Experience

Programming Languages

Python, C#, Java, Objective-C, HTML5, CSS, JavaScript, Protovis, Arduino, C

Development and Platforms

Windows, Android, iOS, Arduino, Unity3d, Eclipse, IntelliJ IDEA, SPSS

Other

User Studies, Statistical Analysis.

Press Coverage

1. Expresso. Um smartphone para cegos. July 5, 2014.
2. VISÃO. Smartphone para cegos: uma invenção portuguesa. June 26, 2014.
3. Canal Superior. Portugueses querem revolucionar uso de smartphones para cegos. June 19, 2014.
4. Público. Cientistas portugueses melhoram o uso de smartphones para os cegos. June, 18, 2014.
5. TheConversation.com. Good Vibrations bring Braille into the 21st century. May 30, 2014