

# Antonio Gomes

## Postdoctoral Associate

MIT CSAIL  
32-208 Vassar St  
Cambridge, MA  
02139 USA

## EMAIL

[gomes@mit.edu](mailto:gomes@mit.edu)

## WEB

<http://antoniogomes.org>

## EMPLOYMENT

### Postdoctoral Associate

**Massachusetts Institute of Technology** | Jan 2017 – Present

Computer Science and Artificial Intelligence Laboratory

HCI Engineering Group

Advisor: Prof. Stefanie Mueller

## EDUCATION

### Ph.D. in Human-Computer Interaction

**Queen's University** | Sep 2012 – Jan 2017

Human Media Lab

Advisor: Prof. Roel Vertegaal

### Masters in Entertainment Technology, Dual Degree

**Carnegie Mellon University; University of Madeira** | Sep 2010 – Jun 2012

Advisors: Prof. Monchu Chen, Prof. Michele Macau and Prof. Ian Oakley

### Bachelor in Communication and Multimedia Design

**Escola Superior de Educacao de Coimbra** | Sep 2007 – Jun 2010

## RESEARCH FOCUS

Personal Fabrication in HCI; Additive Manufacturing; Interactive Devices

## PROFESSIONAL EXPERIENCE

**Human Media Lab** | Sep 2012 – Jan 2017

Graduate Research Assistant. Advised by Prof. Roel Vertegaal

My research overarching goal was to analyze and evaluate for which purposes shape-changing interfaces are useful as an accurate and precise communication medium. To achieve this goal, I developed a series of hardware prototypes with embedded flexible displays and evaluated their effectiveness taking into account both user experience and human factors

**Microsoft Research, Applied Sciences Group** | May 2015 – Aug 2015

Research Intern. Advised by Vivek Pradeep

Designed and implemented a large scale octocopter that used a proprietary depth imaging device to autonomously map and navigate both outdoor and indoor unknown environments (SLAM).

**Microsoft Research, Applied Sciences Group** | May 2014 – Aug 2014

Research Intern. Advised by Tristan Trutna

Designed and implemented DisplayCover, a peripheral accessory for Microsoft Surface devices that combines a physical keyboard with a touchscreen thin-film display placed atop the keyboard.

## SELECTED PUBLICATIONS

**Antonio Gomes**, Calvin Rubens, Sean Braley, and Roel Vertegaal. BitDrones: Towards Using 3D Nanocopter Displays as Interactive Self-Levitating Programmable Matter. *CHI'16*.

**Antonio Gomes**, Tristan Trutna, and Roel Vertegaal. DisplayCover: A Tablet Keyboard with an Embedded Thin-Film Touchscreen Display. *MobileHCI'15*.

**Antonio Gomes** and Roel Vertegaal. PaperFold: Evaluating Shape Changes for Viewport Transformations in Foldable Thin-Film Display Devices. *TEI'15*.

**Antonio Gomes**, Andrea Nesbitt, and Roel Vertegaal. MorePhone: A Study of Actuated Shape Deformations for Flexible Thin-Film Smartphone Notifications. *CHI'13*.

**Antonio Gomes**, Hyunjoo Oh, Yoram Chisik, and Monchu Chen. Ilha Musical: A CAVE for Nurturing Cultural Appreciation. *IDC '12*.

## TECHNICAL NOTES

**Antonio Gomes**, Lahiru Priyadarshana, Juan Pablo Carrascal, and Roel Vertegaal. WhammyPhone: Exploring Tangible Audio Manipulation Using Bend Input on a Flexible Smartphone. *UIST '16 Adjunct*.

**Antonio Gomes**, Calvin Rubens, Sean Braley, and Roel Vertegaal. BitDrones. *Interactions* 23, 3. April 2016.

**Antonio Gomes** and Roel Vertegaal. Paperfold: A Shape Changing Mobile Device with Multiple Reconfigurable Electrophoretic Magnetic Display Tiles. *CHI EA'14*.

Bernard Cheng, **Antonio Gomes**, Paul Strohmeier, and Roel Vertegaal. Mood Fern: Exploring Shape Transformations in Reactive Environments. *ACE '14*.

Hyunjoo Oh and **Antonio Gomes**. The Memory of a Tree: An Interactive Storytelling Installation. *TEI'12*.

## WORKSHOPS

Paul Strohmeier, **Antonio Gomes**, Giovanni Maria Troiano, Aske Mottelson, Timothy Merritt, and Jason Alexander. Sharing Perspectives on the Design of Shape-Changing Interfaces. *CHI EA'16*.

**Antonio Gomes** and Paul Strohmeier. Next Steps in OUIs: Crafting Interactions with Deformable and Actuated Display Surfaces. *ACE'14*.

## TEACHING

### Teaching Fellow, Queen's University

**CISC 425, Advanced User Interface Design** | Sep 2014 – Dec 2014  
**COCA 201, Computing in the Creative Arts** | Jan 2014 – Apr 2014

### Teaching Assistant, Queen's University

**CISC425, Advanced User Interface Design** | Jan 2016 – Apr 2016  
**COCA 201, Computing in the Creative Arts** | Jan 2015 – Apr 2015  
**CISC 325, Fundamentals of HCI** | Jan 2013 – Apr 2013

## SKILLS

### PROGRAMMING

Java/JavaScript, Python, C/C#, .NET, CSS/HTML, PHP/SQL

### HARDWARE

Arduino, Robotics, Sensors, Laser Cutting, CNC, Additive Manufacturing

### DESIGN

Adobe Creative Suite, Fusion 360, Processing, CadSoft Eagle

## EXTRACURRICULAR

### Microsoft Student Partner at Queen's University | Jul 2014 – Aug 2016

Organized workshops for introducing students and faculty to Windows Phone Development and Machine Learning with Azure in Visual Studio. Hosted events with invited speakers to introduce students to the most recent Microsoft technologies.

### Queen's University Makerspace Co-Founder | Sep 2013 – Aug 2016

Secured funding for opening a Makerspace at Queen's University; Trained students to operate prototyping machinery (i.e. 3D Printers, CNC's, laser cutters) and milling machines; Conducted programming and mechanical design workshops aimed at helping students getting started with rapid prototyping.