Thomas Donahue

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Experience

Mar 2014 – **Robot Software Engineer**, *Aldebaran Robotics*, Boston, MA

Member of a small agile team, as well as apart of a larger multinational team with others headquartered in Paris and Shanghai. *Select accomplishments*: Developed and implemented touch sequence gesture extraction algorithm, devised API to allow for future extensibility and integrated into novel robot control framework. Designed and built autonomous office companion/receptionist. Generated dynamic natural language dialogs by combining external knowledge bases, knowledge extracted from interactions over time and bootstrapped knowledge. Designed, built and maintain numerous consumer-facing web front-ends.

Keywords: Python, JS, HTML/ CSS, Robotics, HRI, UI Design, NLP, Linux, Git, Agile (Scrum)

2012 - 2014 **Research Assistant**, *Human Robot Interaction Lab*, *Tufts University*, Medford, MA

Implemented distributed notification system for the ADE robotics middleware. Overhauled system GUIs for ADE middleware with improved efficiency and speed, as well as a simplified UI. Developed data-mining tools for rich audio and video corpora and annotations. Designed and built web-survey platform for multiple HRI studies. Designed, conducted and analyzed multiple HRI studies investigating multiple factors within human-robot teams.

Keywords: Java, JS, HTML/ CSS, PHP, Robotics, HRI, UI Design, NLP, Linux, Git, SVN, LaTeX, R

2012, 2013 **Teaching Assistant**, *Computer Science Dept.*, *Tufts University*, Medford, MA

Maintained automated testing suite and grading system used by dozens of teaching assistants for introductory C++ course. Provided instruction to students during lab sections as well as office hours. Graded homework and exams.

Keywords: C++, Shell scripting, Linux

2010 - 2012 **Research Assistant**, *Computer-Human Interaction Lab*, *Bowling Green State University*, Bowling Green, OH

Part of a team that developed a novel, tangible password input system. Designed, built and tested an alternative UI for World of Warcraft for the visually impaired community. Helped build a series of web-tools for use in undergraduate Geology courses. Investigated the learning benefits of and trade-offs between mouse, touch and tangible input systems via novel deduction puzzle/ game.

Keywords: Java, C++, HCI, Tangible/Touch UIs, Accessibility, Windows

2008 - 2010 **Research Assistant**, *Rhythm, Attention and Perception Lab*, *Bowling Green State University*, Bowling Green, OH

Independently designed and built neural-network in MATLAB that modeled human auditory tone categorization.

Technical Skills

Languages

Core: Java, Python, JS
Experienced: C++, Clojure, PHP, HTML/CSS, R
Exposure: C, SQL, Scheme, SML, Prolog, MATLAB

Tools

src Control: Git, Subversion
Build: Ant, Leiningen
Editors: Emacs, IntelliJ IDEA, Visual Studio
Writing: LaTeX, Org-mode

Platforms

Linux: Preferred OS. Considerable Linux development experience, and comfortable at the command line shell
Robotics: Extensive experience working with Aldebaran's NaoQi robotics middleware, as well as ADE – a research focused distributed, multi-agent robotics middleware. Familiar with ROS.

Education

2012 - 2014 **Graduate studies in Computer Science**, *Tufts University, Medford, MA*
Withdrew in good standing from Computer Science & Cognitive Science Joint-Ph.D. program

2011 - 2012 **M.S. in Computer Science**, *Bowling Green State University, Bowling Green, OH*

2007 - 2011 **B.S. in Computer Science & Psychology**, *Bowling Green State University, Bowling Green, OH*
Minor in Mathematics, Cum Laude

Publications

2014 Cody Canning, **Thomas Donahue**, Matthias Scheutz. *Investigating Human Perceptions of Robot Capabilities in Remote Human-Robot Team Tasks based on First-Person Robot Video Feeds.* 2014 International Conference on Intelligent Robots and Systems (IROS)

2013 **Thomas Donahue**, G. Michael Poor, Martez Mott, et. al. *On Interface Closeness and Problem Solving* 2013 Conference on Tangible, Embedded and Embodied Interaction (TEI)

2012 Martez Mott, **Thomas Donahue**, G. Michael Poor, et. al. *Leveraging Motor Learning for a Tangible Password System* 2012 Conference on Human Factors in Computing Systems: Extended Abstracts (CHI)

2011 G. Michael Poor, **Thomas Donahue**, Martez Mott, et. al. *Access-a-WoW: Building an Enhanced World of Warcraft UI for Persons with Low Visual Acuity* 2011 International Conference on Universal Access in Human-Computer Interaction (UAHCI)

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