Tom Donahue

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Experience

April 2016 – **Character AI Engineer**, *Jibo*, Boston, MA

Member and dialog specialist on the team tasked with making Jibo feel lifelike, produce dynamic behavior, and ensure a consistent character experience his wide range of interactions.

- Co-architect and lead developer of *Embodied Speech*, a sub-system that blends Jibo's speech with animation, graphics and sound to create character rich dialog interactions.
- Lead developer of *Chitchat*, Jibo's ontological dialog ability, and maintainer of *GQA*, Jibo's general question answering service — the most frequent user-initiated interactions with the robot.
- Core contributor to *Pegasus*, a hybrid cloud/local skill architecture that enabled a more scalable and dynamic approach to delivering content to every Jibo.
- Maintainer of *AnimDB*, the sub-system for querying for and configuration of animation and sound assets for on-demand playback on Jibo.

Keywords: TypeScript /JS /Node, Python, NLP/NLU, HRI, OSX, Git, Agile (Scrum)

2014 - 2016 **Robot Software Engineer**, *Softbank Robotics (Aldebaran)*, Boston, MA

Member of a small agile team working across the Aldebaran stack — from NaoQi middleware modules to core applications.

- Designed and built *Act* framework for semi-autonomous multi-robot—human interactions.
- Co-Developed *ALTactileGesture*, a high-level touch sequence gesture recognition module.
- Released *Mad Chats*, an interactive Mad Libs-esque word game played between human and robot.
- Part of the team that designed and built a core application launching and dialog interaction for all Aldebaran robots.
- Designed, built and regularly demoed semi-autonomous robot greeter for range of external clients.

Keywords: Python, JS, C++, HTML/ CSS, HRI, Linux, Git, Agile (Scrum)

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

Areas of focus: human-robot teaming, situated natural language understanding and generation.

As research assistant:

- Implemented distributed notification system for the ADE robotics middleware.
- Overhauled system GUIs for ADE middleware – yielding improved stability, efficiency and 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, Clojure, C++, JS, HTML/ CSS, PHP, HRI, NLP, Linux, Git, SVN, LaTeX, R

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

- Designed, built and tested an alternative UI for World of Warcraft for the visually impaired community.
- Investigated the learning benefits of — and trade-offs between — mouse, touch and tangible input systems via a novel deduction puzzle/ game.
- Part of a team that developed a novel tangible password input system.

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

Technical Skills

Languages

Core:	Typescript /JS, Python
Rusty:	C++, Java, Clojure, HTML/ CSS
Familiar:	PHP, Scheme, SQL, R

Tools

src Control:	Git, SVN
Code Review:	Github, Gerrit
Writing:	LaTeX, G Suite

Platforms

Robotics:	Extensive development experience with a range of robotics platforms. From the commercial, with both Jibo and Softbank/ Aldebaran's Pepper and Nao, to ADE – a research focused distributed, multi-agent robotics middleware.
Unix:	Considerable Unix (Linux, OSX) development experience and comfortable with command line interfaces.

Education

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

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

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

Publications

2015 **Thomas Donahue**, Matthias Scheutz.
Investigating the Effects of Robot Affect and Embodiment on Attention and Natural Language of Human Teammates.
2015 International Conference on Cognitive Infocommunications (CogInfoComm)

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)