

Tom Donahue

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Experience

- July 2022 – **Software Engineer, Amazon Lab 126, Boston, MA**
- Imbuing Astro—Amazon’s home robot—with delightful, character-rich experiences, powered by cutting edge artificial intelligence. My team’s charter is intelligent proactivity and planning, as well as infusing Astro with a sense of inner life.
- Keywords:** Java, Android, AWS, LLMs, Robotics, HRI
- 2020 – 2022 **Character AI Lead, NTT Disruption, Boston, MA**
- Engineering Lead in charge of architecting, developing and evaluating cutting-edge conversational technologies and character experiences for Jibo.
- Keywords:** TypeScript / JS / Node, Azure Speech/ Cognitive Services, Neo4j, BotFramework, NLU, HRI
- 2018 – 2020 **Human-Robot Interaction Engineer, Piaggio Fast Forward, Boston, MA**
- Software Integration Lead and Smart Behaviors liaison; bridged the gap between the investigation and design of high-level behaviors in gita and their implementation.
- Keywords:** C++ (17), ROS, ZeroMQ, Autonomous Robot, HRI, Linux
- 2016 – 2018 **Character AI Engineer, Jibo, Boston, MA**
- Member of the team tasked with making the first social robot for the home—Jibo—feel lifelike, produce dynamic behavior, and ensure a consistent character experience across his wide range of interactions and skills.
- Keywords:** TypeScript / JS / Node, Python, Docker, NLP/NLU, HRI, OSX
- 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.
- Keywords:** Python, JS, C++, HTML/ CSS, HRI

Research Experience

- 2012 - 2014 **Graduate Research / Teaching Assistant, Human Robot Interaction Lab, Tufts University, Medford, MA**
- Research focus: human-robot teaming, embodiment, situated natural language understanding and generation.
- Keywords:** Java, Clojure, C++, JS, HTML/ CSS, PHP, HRI, NLP, \LaTeX , R
- 2010 - 2012 **Graduate Research / Teaching Assistant, Computer-Human Interaction Lab, BGSU, Bowling Green, OH**
- Research focus: Tangible and accessible interfaces
- Keywords:** Java, C++, HCI
- 2008 - 2010 **Research Assistant, Rhythm, Attention and Perception Lab, Bowling Green State University, Bowling Green, OH**

Technical Skills

Languages

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

Software / Tooling

Database: Neo4j, MongoDB, MySQL Cloud: AWS, Docker, Elastic/Kibana Source: Git, SVN

Platforms / Robots

- Amazon **Astro**—Autonomous, mobile home robot deeply integrated with Alexa & Ring.
- **Jibo**—One of the first social robots for the home.
- Piaggio Fast Forwards' **gita**—Hands-free cargo carrying, following robot.
- **ROS**—Most widely adopted open-source robotics middleware.
- Softbank / Aldebaran's **Pepper and Nao**—Humanoid robots used in various business/educational settings.
- **ADE**—A research-focused, distributed, multi-agent robotics middleware.

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

Patents

- 2018 *Embodied Dialog and Embodied Speech Authoring Tools For Use With An Expressive Social Robot*
US20180133900A1. Jibo/NTT Ditrust. Patent Pending
- 2018 *Maintaining Attention and Conveying Believability via Expression and Goal-Directed Behavior with a Social Robot*
US20180229372A1. Jibo/NTT Ditrust. Patent Pending

Publications

- 2015 *Investigating the Effects of Robot Affect and Embodiment on Attention and Natural Language of Human Teammates.* (CogInfoComm '15)
- 2014 *Investigating Human Perceptions of Robot Capabilities in Remote Human-Robot Team Tasks based on First-Person Robot Video Feeds.* (IROS '14)
- 2013 *On Interface Closeness and Problem Solving.* (TEI '13)
- 2012 *Leveraging Motor Learning for a Tangible Password System.* (CHI '12)
- 2011 *Access-a-WoW: Building an Enhanced World of Warcraft UI for Persons with Low Visual Acuity.* (UAHCI '11)

Achievements

- 2020 gita awarded Red Dot's 'Best of the Best' in 'Innovative Products' meta-category
- 2017 Jibo named Time Magazine's #1 of the "25 Best Inventions of 2017"