

# JONATHAN ROSS

Boston, MA

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Proven leader and software architect with a history of delivering large, complex, interdisciplinary products. Effective at leading and mentoring large teams and driving consensus and collaboration across vastly different technology stacks. Takes a business-minded, solutions-driven approach to technical design.

## TECHNICAL SKILLS

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Languages:	C/C++, TypeScript, JavaScript, Java, Python
Graphics:	Qt/QML/WebEngine, GStreamer, Ogre3D, Pixi.js, Three.js
Vision:	OpenCV
Frameworks/Libs:	STL, Boost, Poco, ALSA, v8
Embedded:	Buildroot, Arduino, Raspberry Pi, Android
Web:	HTML5/CSS/JS, Electron, RESTful design
Cloud:	Node.js, Tomcat, AWS, Docker, Microservices Architecture
NLU:	DialogFlow
Tools:	Git, GitHub, Jira, Agile (Scrum)
Build:	Make, CMake, QMake, Gulp

## EXPERIENCE

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### JIBO, INC

Boston, MA

#### *Chief Architect*

April 2018 - June 2018

- Technical lead for a team of 50 engineers.
- Set technology vision and direction for the company.
- Converted business objectives into a unified technology plan.
- Sole technical stakeholder for all product decisions.
- Main point of contact for all technology integrations with external business partners.
- Restructured team and appointed architectural leads to most effectively cover all major components of the tech stack.
- Designed large key components including dynamic proactivity, reminders, 3rd party cloud push, 3rd party cloud integration and authentication models, sandboxed cloud-hosted on-robot skills, and hybrid cloud/on-robot skills.
- Spearheaded unification of cloud infrastructure to enable faster cross stack development of new features.

#### *Chief Robot Architect*

November 2017 - April 2018

- Lead a team of 12 robotics and vision engineers in a total rewrite of Jibo's embedded software stack, called "Project Phoenix".
- Set overall architectural direction of Phoenix and developed a transition plan to fast track it to production.
- Lead developer for Jibo's new graphics system built using Qt.
- Technical lead for all embedded development including v1 systems.

#### *Head of SDK*

Jan 2015 - November 2017

- Overall architect and SDK team lead.
- Hired, built, and led a talented team of 5 engineers and 2 QA testers responsible for the development of Jibo's SDK, which include visual behavior editors, NLU and dialog tools, animation tools, and a robot simulator.

*Software Architect*

November 2012 - Jan 2015

- Second employee and first engineer at Jibo.
- Ideated and pitched concepts/demos to investors.
- Responsible for building 2 prototype robots, one of which starred in Jibo's Indigogo campaign.
- Worked full stack, writing everything from microprocessor firmware to high level behavioral engines.

**ZYNGA**

San Francisco, CA

*Principal Software Engineer*

May 2011 - October 2012

- Tech lead and server and client side engineer for ChefVille.
- Developed RAD, a UI framework that became the standard at Zynga and localized into 18 different languages, including languages read right to left.

*Senior Software Engineer*

March 2011 - May 2011

- Client and server side engineer for CafeWorld and CityVille.

**DISNEY**

Los Angeles, CA

*Senior Software Engineer*

November 2007 - March 2010

- Developed and maintained high performance real-time server side technologies for current and unannounced virtual worlds.
- A lead developer on *World of Car Online*, a Flash based 3D MMO for kids. Developed custom server and client rigid body physics engine, hand-tuned for low end machines; AI and an AI scripting system; single and multi-player Circuit Racing; and the race career and treadmill system. Also co-wrote the game's questing and questing scripting system.
- Inventor of ToyBridge, a framework for communication between a web deployed Flash application and hardware devices.
- Member of ToyMorrow, an interdivisional high-tech toys of the future think tank.

**XPLANA LEARNING**

Boston, MA

*Senior Software Engineer*

June 2006 - November 2007

- Led a team of client side engineers in developing online learning software.
- Developed an online customizable ebook, and math learning courses, which won a Codie award for "Best Mathematics Instructional Solution."
- Participated in overall company strategy, and pushed new ideas and technology to keep products on the cutting edge.

**NICOLELIS NEUROSCIENCE LAB AT DUKE UNIVERSITY**

Durham, NC

*Research Engineer*

May 2004 - May 2006

- Provided mathematical analysis of brain waves.
- Wrote programs to aid in the visualization of these data.
- Developed an algorithm to automatically detect brain states in rats (REM, Slow Wave, Awake) base on brain signals.
- Implemented artificial neural nets to show and imitate the mathematical properties of dreams.

**PATENTS**

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**Persistent companion device configuration and deployment platform**

United States Patent Application 20,170,206,064  
Filed March 30th, 2017

**Apparatus and methods for providing a persistent companion device**

United States Patent Application 20,150,314,454  
Filed July 15th, 2015

**System and Method for Integrated Hardware Platform for Flash Applications with Distributed Objects**

Patent No.: US 8,924,989 B2  
Granted December 30th, 2014

## SPEAKING EVENTS

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<b>Babson</b> Recurring guest lecturer for entrepreneurship classes	November 2017 - Present
<b>Github Universe</b> Building a Social Robot with Atom and Electron	February 2016
<b>SpeechTek</b> Building Skills for a Conversational Robot	August 2015
<b>Exploring Computer Science</b> Program targeting high school students meant to increase the number of minorities and women who gain exposure to engineering	April 2010
<b>USC GamePipe Laboratory</b> Speaker for seminar series on game AI and physics	November 2009

## AWARDS

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<b>Best Invention of 2017</b> Time's annual best inventions issue awarded Jibo best invention of 2017	Time Magazine
<b>CTO Award</b> For the development of the RAD UI framework	Zynga
<b>Disney Inventor Award</b> Walt Disney Inventor Award for ToyBridge	Disney

## EDUCATION

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<b>Duke University</b> BS Electrical Engineering	Durham, NC
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