

Susumu Harada

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Curriculum Vitae

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INDUSTRY EXPERIENCE

Apple Software Engineer (AIML) – Seattle, WA

2019 - 2024

Vision Pro Look to Dictate

Skills exercised: *Swift, Objective-C, visionOS development, project management, full stack prototyping*

- Coordinated multi-year collaboration with teams across Design, Speech, Platform, QE, and EPM orgs as Engineering DRI for the Look to Dictate feature on visionOS
- Developed Objective-C and Swift modules across the stack from audio and speech processing layers up through UI frameworks and keyboard layers
- Created prototypes using iPad and 3rd party eye tracker, rapidly iterated on candidate UX designs

iOS Dictation

Skills exercised: *Swift, Objective-C, iOS development, high-fidelity UX prototyping, LLM integration*

- Key contributor in development of new dictation feature to be released in the upcoming iOS version
- Created SwiftUI prototype app integrated with server-side LLM to validate and pitch target UX designs
- Designed and conducted multiple user studies to analyze user behavior during dictation
- Revived and expanded neglected suite of UI automation tests, uncovered key issues and regressions

Apple Software Engineer (Accessibility Engineering) – Cupertino, CA

2013 - 2019

Display Zoom

Skills exercised: *Objective-C, macOS development, legacy code refactoring*

- Rewrote the entire macOS Zoom feature stack in a modular design, enabling consolidation of redundant logic, creation of automated tests, and rapid development of new features
- DRI for bringing Zoom and Voice Over support to the Touch Bar, resulting in a patent

Foundational Infrastructure

Skills exercised: *Objective-C, macOS development, system framework design, continuous integration*

- Created foundational accessibility support framework with concise API, demonstrated its utility by writing a functional screen reader in few dozen lines of code
- Set up team's first continuous integration pipeline using Jenkins, enabling automated unit tests and UI integration tests for the first time

IBM Research – Tokyo Accessibility Researcher – Tokyo, Japan

2010 - 2013

- Studied challenges of touch screen devices faced by users with limited mobility and vision, designed and developed accessible interaction methods, resulting in multiple publications and a patent

Trilogy Integration Consultant – Austin, TX

2000 - 2002

- Conceived and implemented interactive online executive dashboard for automotive manufacturers by introducing the use of JSP, SVG, and OLAP databases to the company, resulting in a patent

EDUCATION

Ph.D. in Computer Science, **University of Washington**

2004 - 2010

Reading committee: James A. Landay, Jacob O. Wobbrock, Richard E. Ladner, Jeff A. Bilmes, Axel Roesler
Dissertation title: Harnessing the capacity of the human voice for fluidly controlling computer interface

M.S. in Computer Science, **Stanford University**

2002 - 2004

Advisor: Andreas Paepcke

B.S. in Computer Science, **Carnegie Mellon University**

1996 - 2000

With a double major in Human Computer Interaction

FEATURED PUBLICATIONS

Dissertation

Harada, S. (2010) **Harnessing the capacity of the human voice for fluidly controlling computer interfaces**. University of Washington ProQuest Dissertations & Theses, 2010. 3406108.

Refereed Journal Articles

Wobbrock, J.O, Kane, S.K., Gajos, K.Z., Harada, S., and Froehlich, J. (2011) **Ability-based design: Concept, principles and examples**. ACM Transactions on Accessible Computing (TACCESS) 3(3), 9:1-9:27, 2011.

Harada, S., Landay, J.A., Malkin, J., Li, X., and Bilmes, J.A. (2008) **The Vocal Joystick: evaluation of voice-based cursor control techniques for assistive technology**. Disability and Rehabilitation: Assistive Technology 3(1):22–34, January 2008.

Refereed Conference Papers

Harada, S., Sato, D., Takagi, H., and Asakawa, C. (2013) **Characteristics of Elderly User Behavior on Mobile Multi-Touch Devices**. Proceedings of the 14th IFIP TC13 International Conference on Human-Computer Interaction (INTERACT 2013). Springer-Verlag, Berlin, Heidelberg, (to appear).

Harada, S., Sato, D., Adams, D.W., Kurniawan, S., Takagi, H., and Asakawa, C. (2013) **Accessible Photo Album: Enhancing the photo sharing experience for people with visual impairment**. Proceeding of the 31st International Conference on Human Factors in Computing Systems (CHI 2013). New York: ACM Press, pp. 2127-2136.

Harada, S., Wobbrock, J.O., and Landay, J.A. (2011) **Voice games: Investigation into the use of non-speech voice input for making computer games more accessible**. Proceedings of the 13th IFIP TC13 International Conference on Human-Computer Interaction (INTERACT 2011). Springer-Verlag, Berlin, Heidelberg, 11-29.

Harada, S., Takagi, H., and Asakawa, C. (2011). **On the audio representation of radial direction**. Proceedings of the 29th International Conference on Human Factors in Computing Systems (CHI 2011). New York: ACM Press, pp. 2779–2788.

Harada, S., Wobbrock, J.O., Landay, J.A., Malkin, J., and Bilmes, J. (2009) **Longitudinal study of people learning to use continuous voice-based cursor control**. Proceedings of the 27th International Conference on Human Factors in Computing Systems (CHI 2009). New York: ACM Press, pp. 347–356.

Harada, S., Wobbrock, J.O., and Landay, J.A. (2007) **VoiceDraw: A hands-free voice-driven drawing application for people with motor impairments**. Proceedings of the 9th International Conference on Computers and Accessibility (ASSETS 2007). New York: ACM Press, pp. 27–34.

PATENTS

US 10649636 B2

Granted May 2020

Systems and methods for enabling low-vision users to interact with a touch-sensitive secondary display

US 20120136569 A1

Granted November 2013

Method, device and computer program for mapping moving direction by sounds

US 7359935 B1

Granted April 2008

Generating contextual user network session history in a dynamic content environment

PERSONAL BACKGROUND

Citizenship: Japanese citizen; U.S. permanent resident

Languages: Fluent in Japanese and English