Susumu Harada

Curriculum Vitae

863 NW 70th St

harada@gmail.com

Seattle, WA 98117

+1-415-202-4848

INDUSTRY EXPERIENCE

Apple Software Engineer (AIML) – Seattle, WA   *2019 - 2024*

Vision Pro Look to Dictate

Skills applied: *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: S*wift, 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