

Sukolsak Sakshuwong

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Education

Stanford University April 2021 (Expected)
Ph.D. in Management Science and Engineering

Stanford University January 2015
M.S. in Computer Science

University of Illinois at Urbana-Champaign May 2012
B.S. in Computer Science University Honors (top 3% of College of Engineering)

Experience

SOCIAL & ALGORITHM LABORATORY, STANFORD UNIVERSITY Stanford, CA
Graduate Researcher 2016 - Present

- Developed an online platform for paired kidney exchanges, enabling patients with kidney disease to find donors for kidney transplantation even though their donor may have an incompatible blood type. The platform has facilitated over 300 kidney transplants in the US and Israel (kpd.stanford.edu)
- Created an open-source platform for running participatory budgeting elections, in which people can vote on the budget. The platform has been used by over 20 cities in the US and Canada to distribute over \$30,000,000 of public budget (pbstanford.org)
- Conducted a research on online deliberation with an automated moderator chatbot, using technologies such as WebRTC, speech recognition, and sentiment analysis (stanforddeliberate.org)

APPLE INC. Cupertino, CA
Software Engineering Intern Summer 2011, 2015

- Created a prototype just-in-time compiler for WebAssembly, an open standard by Apple, Google, Microsoft, and Mozilla for executable programs aimed to achieve native performance in web browsers
- Contributed over 80 patches to the WebKit open source project and became a WebKit Reviewer
- Developed a prototype of Smart Playlist for iOS, a feature that would enable users to create advanced music playlists with boolean operators

GOOGLE INC. Mountain View, CA
Software Engineering Intern Summer 2012, 2013, 2015

- Implemented UndoManager and DOM Transaction API, a proposed HTML5 feature that would enable advanced user interaction in web applications
- Created a test automation framework for Google Chrome Installer, ensuring successful installation of Chrome, and contributed over 30 patches to the Chromium open source project
- Ported Google's Gesture Search app to Wear OS, allowing users to perform searches by drawing letters on their smartwatches
- Developed a framework for crawling Google Play Store and analyzing the UI/UX of Android apps

SCHOOL OF MEDICINE, STANFORD UNIVERSITY Stanford, CA
Graduate Researcher Summer 2014

- Developed efficient algorithms for identifying disease-associated mutations in human genomes
- Improved the speed of the previous algorithm for identifying mutations by up to 20 times

MIDORI (midoriapp.com) Stanford, CA
Creator 2010 - Present

- Created a Japanese dictionary application for iOS with kanji handwriting recognition powered by TensorFlow

Publications

- Tanja Aitamurto, Andrea Stevenson Won, Sukolsak Sakshuwong, Byungdoo Kim, Yasamin Sadeghi, Krysten Stein, Peter Royal, and Catherine Lynn Kircos. 2021. From FOMO to JOMO: Fear and Joy of Missing Out in 360° Video. *In Proceedings of the 2021 CHI Conference on Human Factors in Computing Systems (CHI '21)*. ACM. (Forthcoming)
- Tanja Aitamurto, Laura Aymerich-Franch, Jorge Saldivar, Catherine Kircos, Yasamin Sadeghi, and Sukolsak Sakshuwong. 2020. Examining Augmented Reality in Journalism: Sense of Presence, Knowledge Gain and Perceived Authenticity of the Visuals. *New Media & Society*.
- Nikhil Garg, Lodewijk Gelauff, Sukolsak Sakshuwong, and Ashish Goel. 2019. Who is in Your Top Three? Optimizing Learning in Elections with Many Candidates. *Proceedings of the Seventh AAAI Conference on Human Computation and Crowdsourcing*. Vol 7 No 1 (2019)
- Andrea Stevenson Won, Tanja Aitamurto, Byungdoo Kim, Sukolsak Sakshuwong, Catherine Kircos, and Yasamin Sadeghi. 2019. Motivation to Select Point of View in Cinematic Virtual Reality. *2019 IEEE Conference on Virtual Reality and 3D User Interfaces (VR)*, Osaka, Japan, 2019, pp. 1233-1234.
- Ashish Goel, Anilesh K. Krishnaswamy, Sukolsak Sakshuwong, and Tanja Aitamurto. 2019. Knapsack Voting for Participatory Budgeting. *ACM Transactions on Economics and Computation*. 7, 8:1-8:27.
- Tanja Aitamurto, Shuo Zhou, Sukolsak Sakshuwong, Jorge Saldivar, Yasamin Sadeghi, and Amy Tran. 2018. Sense of Presence, Attitude Change, Perspective-Taking and Usability in First-Person Split-Sphere 360° Video. *In Proceedings of the 2018 CHI Conference on Human Factors in Computing Systems (CHI '18)*. ACM.
- Brandon Fain, Ashish Goel, Kamesh Munagala, and Sukolsak Sakshuwong. 2017. Sequential Deliberation for Social Choice. *Web and Internet Economics. WINE 2017*.
- Gefei Zhu, Inbar Raber, Sukolsak Sakshuwong, Shufeng Li, Angela Li, Caroline Tan, and Anne Chang. 2016. Estimation of individual cumulative ultraviolet exposure using a geographically-adjusted, openly-accessible tool. *BMC Dermatology*. 16.
- Li C. Xia, Sukolsak Sakshuwong, Erik S. Hopmans, John M. Bell, Susan M. Grimes, David O. Siegmund, Hanlee P. Ji, and Nancy R. Zhang. 2016. A genome-wide approach for detecting novel insertion-deletion variants of mid-range size. *Nucleic Acids Research*, Volume 44, Issue 15.

Other Writings

- James Fishkin, Nikhil Garg, Lodewijk Gelauff, Ashish Goel, Sukolsak Sakshuwong, Alice Siu, Kamesh Munagala, and Sravya Yandamuri. 2019. Online Deliberation Platform. Demonstration paper for the *Seventh AAAI Conference on Human Computation and Crowdsourcing*.
- Katherine Erdman, Lucas Lin, Xiran Liu, Sukolsak Sakshuwong. 2019. A deep learning approach to prioritizing genetic variants in coronary artery disease. Final paper for CS 273B: Deep Learning in Genomics and Biomedicine.

Teaching Experience

- 2018. Teaching assistant, Introduction to Optimization (ENGR 62), Stanford University
- 2017. Teaching assistant, Introduction to Optimization (Accelerated) (ENGR 62X), Stanford University

Skills & Interests

- **Programming:** C, C++, Objective-C, Java, JavaScript, Python, Ruby, and Swift
- **Web development:** HTML, CSS, Node.js, React, Ruby on Rails, SQL, and graphics design
- **Open source contributions:** WebKit, Chromium, LLVM, and DNA Chisel

Selected Achievements

- Recipient of a full-ride scholarship from the Royal Thai Government to study in the United States
- Silver Medal from the 17th International Olympiad in Informatics, Nowy Sącz, Poland, 2005
- Recipient of a Magic Grant from the Brown Institute for Media Innovation, 2020
- Recipient of a Magic Grant from the Brown Institute for Media Innovation, 2014
- Recipient of the C.W. Gear Outstanding Undergraduate Student Award, 2012
- Recipient of the Franz Hohn and J.P. Nash Scholarship, 2012
- Placed 1st out of 142 teams in the ACM ICPC 2010 Mid-Central USA Regional Contest
- Recognized by the City of Vallejo, California in a proclamation for developing a digital voting system for participatory budgeting