Raymond Fok

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http://rayfok.github.io/

Education

2019 - Present

Ph.D., Computer Science University of Washington
Research Advisors: Daniel Weld and James Fogarty
Research Focus: human-computer interaction, artificial intelligence, accessibility

M.S., Computer Science University of Washington
Research Advisors: Daniel Weld and James Fogarty
Expected June 2021

2016 - 2019

B.S.E., Computer Science & Mathematics University of Michigan - Ann Arbor
Research Advisor: Walter S. Lasecki
GPA: 3.9

Employment History

Sept. 2020 - Jan. 2021

Research Intern Allen Institute for Artificial Intelligence (AI2)
Hosts: Daniel Weld

- Developed a decision-theoretic model for error management within AI-infused user interfaces.
- Engineered experimental features for an AI-powered online PDF reader for scientific papers.
- Conducted usability studies to evaluate the validity of the AI-powered PDF reader design, and to determine user-tolerable levels of system accuracy.

Jun. 2020 - Sept. 2020

Research Intern Google Research - Central Accessibility
Hosts: Casey Burkhardt, Brinko Kobrin

- Designed and developed a human-in-the-loop color correction mechanism within Accessibility Scanner, a public Android application for detecting and repairing mobile accessibility failures.
- Worked closely with UX to iterate on the mechanism's design considerations, engineering scoping, and desired functionalities.
- Implemented and extensively tested the correction mechanism, which was rolled into production shortly after the end of the internship.

Jun. 2018 - Sept. 2018

Technology Analyst Goldman Sachs

- Implemented full-stack software for internal analysis of entitlement management, including API endpoints, custom database connectors, and front-end visualizations.
- Optimized database schema for 10M+ rows of entitlement data, and developed scripts to migrate historical data from SQL Server to ElasticSearch and maintain an efficient bi-weekly ingestion of incoming data.

Research Publications

Conference Proceedings

1. Bansal, G., Wu, T., Zhou, J., **Fok**, **R.**, Nushi, B., Kamar, E., … Weld, D. S. (2021). Does the whole exceed its parts? the effect of ai explanations on complementary team performance. In *23rd conference on human factors in computing systems*, Yokohama, Japan: Association for Computing Machinery. Retrieved from https://arxiv.org/pdf/2006.14779.pdf

2. Head, A., Lo, K., Kang, D., **Fok**, **R.**, Skjonsberg, S., Weld, D. S., & Hearst, M. A. (2021). Augmenting scientific papers with just-in-time, position-sensitive definitions of terms and symbols. In *23rd conference on human factors in computing systems*, Yokohama, Japan: Association for Computing Machinery. Retrieved from https://arxiv.org/pdf/2009.14237.pdf

3. **Fok**, **R.**, Kaur, H., Palani, S., Mott, M. E., & Lasecki, W. S. (2018). Towards more robust speech interactions for deaf and hard of hearing users. In *Proceedings of the 20th international acm sigaccess conference on computers and accessibility* (pp. 57–67). doi:10.1145/3234695.3236343

4. Song, J. Y., **Fok**, **R.**, Lundgard, A., Yang, F., Kim, J., & Lasecki, W. S. (2018). Two tools are better than one: Tool diversity as a means of improving aggregate crowd performance. In *23rd international conference on intelligent user interfaces* (pp. 559–570). doi:10.1145/3172944.3172948

5. Swaminathan, S., **Fok**, **R.**, Chen, F., Huang, T.-H. (, Lin, I., Jadvani, R., … Bigham, J. P. (2017). Wearmail: On-the-go access to information in your email with a privacy-preserving human computation workflow. In *Proceedings of the 30th annual acm symposium on user interface software and technology* (pp. 807–815). doi:10.1145/3126594.3126603

Journal Articles

1. Song, J. Y., **Fok**, **R.**, Kim, J., & Lasecki, W. S. (2019). Foureyes: Leveraging tool diversity as a means to improve aggregate accuracy in crowdsourcing. *ACM Trans. Interact. Intell. Syst.*, *10*(1). doi:10.1145/3237188

Skills

Coding	Python, Java, C++ (limited), R (limited), Android app development
Databases	PostgreSQL, MySQL, SQLite, ElasticSearch
Web Dev	HTML, CSS, JavaScript, Flask, React, Redux