

Raymond Fok

AI+HCI Researcher • Software Developer
AI, Human-Computer Interaction (HCI), Natural Language Processing (NLP)

+1 (917) 589-3888
rayfok@cs.washington.edu
<https://rayfok.github.io/>

Education

Ph.D., Computer Science & Engineering • University of Washington, Seattle 2019 – Present
Thesis: *Human-AI Systems for Augmenting Information-Driven Knowledge Work* (Expected June 2025)
Advisor: *Daniel S. Weld* • Committee: *Amy X. Zhang, Andrew Head, James Fogarty*

B.S., Computer Science, Minor in Mathematics • University of Michigan, Ann Arbor • GPA: 3.91 / 4.0 2016 – 2019

Experience

University of Washington Seattle, WA
Graduate Research Assistant Sep 2019 – Present

- Authored and presented **10+ research papers** at top-tier HCI and AI conferences (CHI, UIST, IUI, EMNLP, AI Mag).
- Developed and evaluated **novel AI mechanisms** and **interactive systems** for exploring **human-AI interaction**.

Allen Institute for Artificial Intelligence (Ai2) Seattle, WA
Semantic Scholar – Research Intern Mar 2023 – Jun 2023

- Implemented an interactive system for concept of fluid scholarly literature, built on a novel interaction paradigm of *recursively expandable summaries* and powered using **retrieval-augmented LLMs**. Conducted technical and user evaluations, and published paper ([UIST '24](#)).

Semantic Scholar – Research Intern Jun 2021 – Sep 2021

- Developed prototype **interactive system with AI-powered, faceted highlights** to support rapid reading of research papers ([IUI '23](#), [TiiS '24](#)).
- Implemented and evaluated task-specific NLP model by collecting a dataset of salient faceted segments from domain experts, using **weakly supervised learning methods**, and **fine-tuning LMs** (BERT, DistilBERT).
- **Transferred research prototype into production** (*skimming highlights*; Oct 2023) in Semantic Scholar's Semantic Reader with 7M+ MAUs.

Semantic Scholar – Research Intern Sep 2020 – Dec 2020

- Developed and evaluated **decision-theoretic models** for **analyzing error recovery paths** in interactive AI-infused UIs.

Adobe Research San Jose, CA
Document Intelligence – Research Intern May 2023 – Sep 2023

- Developed an **LLM-enabled computational notebook** for accelerating business tasks, focused on *collection-centric information extraction*, **question answering**, and **synthesis**. Ideas served to **inform multi-document functionality** in Acrobat AI Assistant ([CHI '24](#)).

Google Research Mountain View, CA
Android (Gboard) – Research Intern Sep 2021 – Dec 2021

- Implemented and evaluated **multi-modal models** for gesture typing recognition (TensorFlow, Keras), combining LSTMs for gesture trace data with language modeling over prior phrase context, improving word prediction accuracy by 5% over existing approaches.

Central Accessibility – Software Engineering Intern Jun 2020 – Sep 2020

- Designed, prototyped, and implemented (Java) an **interactive color correction mechanism** for the Android Accessibility Scanner.
- Released productized feature into the Accessibility Scanner app with 1M+ downloads on Google Play store.

Academic Publications (Selected) (See [Google Scholar](#) for full list of publications • Citations: 1,170)

- **Scholarly Communication:** Developed **interactive, AI-powered systems** for faceted exploration ([IUI '23](#), [TiiS '24](#)), in-context information retrieval ([UIST '24](#), [EMNLP '23](#)), and structured synthesis (UIST '25, [EMNLP '24](#)) of research literature, using methods from fine-tuning language models (LMs) to retrieval-augmented generation (RAG) with LLMs.
- **Sensemaking:** Developed a **retrieval-augmented LLM-enabled computational notebook** for collection-level exploration over business documents, and evaluated with technical and user studies ([CHI '24](#), [CHI '25](#)).
- **Explainable AI:** Conducted studies to **characterize the impact of explainable AI on decision-making** via large-scale crowdsourced experiments ([CHI '21](#)) and developed a theoretical framework from comprehensive lit review ([AI Mag '24](#)).

Skills

Programming Languages: Python, TypeScript, JavaScript, HTML/CSS, SQL, Java

Platforms/Tools: Flask, React, LangChain, PyTorch, TensorFlow, Keras, Transformers, NumPy, Scikit-learn, Faiss, PostgreSQL, Git

Research Methods: Mixed-methods experimentation, Quantitative analysis and statistical modeling, Qualitative analysis, Usability testing, A/B testing, Contextual inquiry, Deployment studies, Diary studies, Prototyping, A/B testing

Relevant Coursework: Natural Language Processing, Machine Learning, Deep Learning, Data Mining, Big Data Machine Learning, Information Retrieval, Complex Analysis, Algorithms, Data Visualization, Advanced Topics in Human-Computer Interaction