Rebecca Krosnick

240-505-2222   rkros@umich.edu   https://www-personal.umich.edu/~rkros/   LinkedIn

Summary

- Experienced builder, designer, and researcher
- 10+ years of **experience building user interfaces** with JavaScript, HTML, and CSS
- 6+ years of experience identifying user needs, **designing and prototyping** potential solutions, and evaluating them
- **Expert on human-computer interaction**, programming tools, UI automation (published 8 peer-reviewed articles)

Education

University of Michigan   **Ann Arbor, MI**
PhD in Computer Science and Engineering   *October 2023*
- Relevant Coursework: Social Computing Systems, Natural Language Processing, Database Systems

Massachusetts Institute of Technology   **Cambridge, MA**
Master of Engineering in Electrical Engineering and Computer Science   *September 2015*
- Thesis: VideoDoc: Combining Videos and Lecture Notes for a Better Learning Experience

Bachelor of Science in Computer Science and Engineering   *June 2014*
- Relevant Coursework: User Interface Design, Artificial Intelligence, Software Construction, Computer Graphics

Skills

Proficient in: React, JavaScript, HTML, CSS, Node.js, Express.js, Electron, MongoDB, Git, jQuery
Familiar with: TypeScript, Python, Next.js, Puppeteer, Vercel, Webpack, Dojo, Java, C#, C++, Swift, MATLAB, SQL
UX and Research: rapid prototyping, user-centered design, mockups, usability studies, thematic analysis

Work Experience

University of Michigan   **Ann Arbor, MI**
Graduate Student Researcher   *September 2017 – Present*
- **Designed and implemented no-code tools** (e.g., see demo) using React that enable users to create custom web automation and scraping macros without writing code – users instead **specify desired behavior naturally** (e.g., direct manipulation, natural language, examples); the system **infers generalized automation using AI heuristics**
- Designed and implemented a prototype IDE (see demo) using JavaScript/Electron to support programmers writing web automation scripts, by integrating the target website UI with code and providing feedback on CSS selectors
- Designed and implemented a no-code tool (see demo) using JavaScript that allows users to create responsive website layouts without writing code, but instead through direct manipulation and by providing visual examples; the system then uses interpolation to infer generalized layout rules

Apple   **Seattle, WA**
Research Intern – AI/ML Division   *May 2022 – September 2022*
- Developed a new approach for collecting mobile phone screenshots and labels to train machine learning models to predict user interface elements and their attributes
- **Implemented a data engineering pipeline** in Python which spawns compute jobs to launch iPhone apps, capture screenshots and metadata, and process and deliver data into the necessary format for training a machine learning model
- Gathered representative data samples and worked with our data annotation team to generate labels

Microsoft Research   **Remote**
Research Intern – Extended Perception, Interaction & Cognition Team   *May 2021 – August 2021*
- Developed a JavaScript prototype for exploring novel cross-device interactions and presented demos to product teams

Autodesk Research   **Toronto, ON**
Research Intern – User Interface Research Team   *May 2019 – August 2019*
- Designed an approach to help knowledge workers capture their knowledge, processes, and design intents while they are working on the computer, to serve as future documentation or learning material
- Implemented this approach as a JavaScript/Electron app that encourages users to think aloud while they work, and captures and presents transcribed user speech alongside screen recordings and other software metadata

The MathWorks, Inc.   **Natick, MA**
Software Engineer   *September 2016 – July 2017*
- Developed file directory UI features for MATLAB and MATLAB Online using JavaScript, Dojo, and Java
- Wrote unit and integration tests to test software
- **Wrote design documents to plan & communicate** feature requirements, functionality, architecture, implementation

Application Support Engineer   *August 2015 – September 2016*
- Participated in software projects throughout the company as part of a rotational program for recent graduates
- Provided technical support to customers and served as the Group Leader for my technical support team, managing open cases and assisting other team members with technical and procedural questions

Microsoft Corporation   **Redmond, WA**
Software Development Engineer Summer Intern   *June 2014 – August 2014*

Publications

See Google Scholar: https://scholar.google.com/citations?user=bw4sQA0AAAAJ&hl=en&oi=ao