Rebecca Krosnick

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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 10 peer-reviewed articles)

Skills

Proficient in: React, TypeScript, JavaScript, HTML, CSS, Node.js, Express.js, Electron, MongoDB, Git, jQuery
Familiar with: 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

Postman, Inc. **New York, NY**
Research Software Engineer II *January 2024 – Present*
- Prototyped new interfaces for teaching users how to use Postman Flows, a dataflow visual programming tool
- Maintained our product, implementing feature improvements and bug fixes

University of Michigan **Ann Arbor, MI**
Graduate Student Researcher *September 2017 – November 2023*
- **Designed and implemented no-code tools** (demo 1, demo 2) 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

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

Publications

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