Erik Ulberg

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Software developer and researcher with a passion for exploring new forms of digital interaction and the integration of human reasoning with machine learning.

EDUCATION

Carnegie Mellon University, Pittsburgh, PA
M.S. Computational Design | *May 2020*

Carleton College, Northfield, MN
B.A. Computer Science | *June 2009*
Distinction in Major, *magna cum laude*

SKILLS

JS, Python, Java, SQL, HTML, CSS, React, Node.js, TensorFlow, OpenCV, AWS, D3, Git, Photoshop, Illustrator

COURSEWORK

Intro to Machine Learning, Computational Perception, Creative AI

PROJECTS

Crafting the Weights of a Convolutional Neural Network to Make a Drawing

Combines interactive images, kernels, and visualizations for hand-crafting a CNN.

JS, React, TensorFlow

Sketch Repeater

Predicts future changes to an image based on the trajectory of changes to its feature embeddings.

Python, JS, TensorFlow, OpenCV

A Conversation with a Machine

A conversational AI powered by changes to feature embeddings of an image.

Python, JS, TensorFlow

Visual Concepts in Sketch-A-Net

An interactive explorer of visual concepts within Sketch-A-Net derived by K-Means clustering.

Python, JS, TensorFlow, OpenCV

WORK EXPERIENCE

Carnegie Mellon University   Pittsburgh, PA
Graduate Research Assistant   *Sept 2019-May 2020*
                                                      Sept 2018-May 2019

- Led the planning, design, implementation, and deployment of a web-based computer-aided design tool in JS and React.
- Collaborated on a team translating research into prototypes.
- Mentored students on developing experimental design software.

Human-Computer Interaction Institute
Carnegie Mellon University   Pittsburgh, PA
Summer Research Assistant   *May 2019-Aug 2019*

- Analyzed, processed, and visualized data using JS, React, D3, and TensorFlow.
- Participated in computer vision research leveraging video data from smart classrooms.
- Advised team and mentored junior colleagues on web apps.

Self-Employed   Seattle, WA
Part-Time Freelance Web Developer   *June 2014-May 2018*

- Designed, developed, and deployed WordPress and Shopify apps using JS, PHP, and SQL.
- Communicated closely with clients to clarify requirements and provide excellent customer service.

Salesforce.com   San Francisco, CA and Seattle, WA
Senior Member of Technical Staff   *May 2013-Aug 2013*
Member of Technical Staff   *Sept 2011-May 2013*
Associate Member of Technical Staff   *Aug 2009-Sept 2010*

- Built features in Java, JS, and SQL for a collaboration tool used by millions of customers.
- Developed a responsive, performant, and cross-platform web UI as part of an Agile team.
- Produced automated UI and integration tests with Selenium.