Donald Bertucci

I am a junior at Oregon State University studying Computer Science.

Lately, I've been **creating visualizations** for humans **to better understand** and **debug machine learning models**.

I am fascinated in information and its complexity: how order arises, and it's dance with chaos.

PDF Personal Website Github

Education

2020 – PRESENT

B.S. Computer Science

Oregon State University

Applied Option: Artificial Intelligence

Experience

SUMMER 2022

Carnegie Mellon University

Research Intern, HCII Summer Undergraduate Research Program

Researched interactive discovery of blindspots in machine learning models [P1]. Primarily advised by Ángel Alexander Cabrera and Adam Perer. Advised by Nari Johnson and Gregory Plumb for machine learning. Hosted by CMU Data Interaction Group (DIG). The overall summer program was led by Laura Dabbish.

AUG. 2021 – AUG. 2022

Oregon State University

Research Assistant, Data Interaction and Visualization (DIV) Lab

Designed and implemented interactive systems to understand machine learning models and data [C1, C2]. Worked under and advised by Minsuk Kahng.

SUMMER 2021

Oregon State University

EECS REU Summer Cohort

Practiced communicating research to computer science faculty and students. Presented [W2] weekly and improved communication skills with feedback. Program led by Alan Fern.

FEB. 2021 – MAY 2021

Oregon State University

Research Intern, URSA Engage Research Program

Implemented interactive visualization to explain difficult concepts in machine learning [W2]. Hosted by the DIV Lab and advised by Minsuk Kahng.

Publications

Conference

C2

DendroMap: Visual Exploration of Large-Scale Image Datasets for Machine

Donald Bertucci, Md Montaser Hamid, Yashwanthi Anand, Anita Ruangrotsakun, Delyar Tabatabai, Melissa Perez, Minsuk Kahng

IEEE Transactions on Visualization and Computer Graphics (IEE VIS 2022). Oklahoma City, OK

Demo PDF

C1 **Beyond Value: CHECKLIST for Testing Inferences in Planning-Based RL**

Kin-Ho Lam, Delyar Tabatabai, Jed Irvine, **Donald Bertucci**, Anita Ruangrotsakun, Minsuk Kahng, Alan Fern

32nd International Conference on Automated Planning and Scheduling (ICAPS 2022).

▷ Video PDF

Workshop

W2 **Backprop Explainer: Interactive Explanation of Backpropagation in Neural Network Training**

Donald Bertucci, Minsuk Kahng

Workshop on Visualization for AI Explainability (VISxAI, IEEE VIS 2021).

Demo ▷ Video

W1 **An Interactive Introduction to Autoencoders**

Donald Bertucci

Workshop on Visualization for AI Explainability (VISxAI, IEEE VIS 2021).

Demo ▷ Video

Poster

P1 **Mirror: Interactive Discovery of Blindspots in Machine Learning Models**

Donald Bertucci, Ángel Alexander Cabrera, Nari Johnson, Gregory Plumb, Erica Fu, Adam Perer

Human-Computer Interaction Institute (HCII) Summer Research Showcase 2022.

PDF