Ryan Brown

broryan@umich.edu
https://www.linkedin.com/in/RyanBrownUmich/
Personal Site: ryanbrown.ga

EDUCATION

University of Michigan - College of Engineering
Ann Arbor, Michigan

Sophomore Graduating April 2022

- Engineering 100: Completed semester project which included an in-depth, team-based research project and presentation of a trans-tibial prosthetic leg.
- Computer Science Major: EECS 280 (Programming & Data Structures), EECS 203 (Discrete Math), and EECS 281 (Data Struct & Algorithms) completed by end of winter term.
- EECS 280 projects included content aware image rescale script, Euchre with polymorphic AI players, and linked list office hours queue.

PROFESSIONAL EXPERIENCE

University of Michigan - Walter E. Lay Auto Lab
Ann Arbor, Michigan
May 2019 - Present

Internship

- Developed structural CAD designs of 3-D engine piece prototype to be attached to engine block to ensure fitting for pressure and temperature sensors.
- Installed piping, fixtures, wiring, and electrical components in generator engine control cart.
- Constructed assemblies for engine test cell such as water and exhaust pipelines.
- Reworked, repaired, and replaced parts and assemblies in an ongoing refurbishment project of a diesel particulate matter diluter.
- Integrated data acquisition systems and sensors to collect live-test data for benchmarking.

PROJECTS

Abstract Geometry Generator
https://github.com/rb404/Abstract-Geometric-Design

- Utilized HTML 5 Canvas framework Kovna to generate series of specified shapes with varying color, opacity, and coordinates to be used in backgrounds, presentations, etc.
- Implemented a JavaScript algorithm to determine deviating positions of shapes on the canvas.
- Generated a line direction algorithm that controls the coordinate formation of generated line segments.

Machine Learning Piazza Post Classifier

- EECS 280 course project involved implementing a machine learning classifier to classify Piazza post based on training data.
- Trained the “Multi-Variate Bernoulli Naive Bayes Classifier” using "a bag of words" model to calculate the log prior probabilities of each tag.
- Implemented the Binary Search Tree and Map data structures.
- Classifier achieved an accuracy of 87.1% when predicting the tags of 3000 posts.

Euchre

- EECS 280 course project included the creation of the card game Euchre.
- Euchre implementation included card hierarchy algorithms, polymorhphic AI players, and human player protocol.

ADDITIONAL SKILLS

C++, JavaScript, HTML, CSS, Matlab, MetaTrader 4, Autodesk Inventor, Solidworks, Milling, Lathe, Adobe Creative Suite, Blender.

HOBBIES

I have enjoyed the visual arts such as graphic design, videography, and 3D Animation since middle school. I have designed logos, composed VFX, and rendered animations.