michael young

Salt Lake City, Utah
(801) 362-2966
m.c.young0@gmail.com
Portfolio: mkcyoung.github.io
Github: https://github.com/mkcyoung

education

University of Utah • Salt Lake City, Utah • 2019 – 2021
MS in Computing
Relevant coursework: Advanced Algorithms, Data Mining, Data Visualization, Machine Learning, Deep Learning, Clustering, Structured Prediction, Information Extraction, Linear Algebra

University of Utah • Salt Lake City, Utah • 2011 – 2017
BS in Biomedical Engineering, Minor in English Literature, Minor in Chemistry
3.96 GPA — Magna Cum Laude
Honors Thesis: The Contributions of Elastin to Ligament Viscoelasticity

selected projects

Park City Power and Transportation Network Visualization
- Collaborated with the Dept. of Electrical Engineering to create a web-based, interactive visualization to explore the multi-network relationship between the power distribution and electrical bus transit systems of Park City, Utah. Created using d3.js.
- View live demo: https://usmart.ece.utah.edu/power-transit-vis/
- View on arXiv: https://arxiv.org/abs/2011.10917

Deep Green Space
- Trained a CNN on the CityScapes dataset & hand-labeled Google Street View images to quantify the amount of urban "green space" in Salt Lake City, UT. Used PyTorch to train the network.
- The final network achieved a pixel-wise accuracy of 96.1% & an mIoU of 74.8% on our test set.
- View on Github: https://github.com/mkcyoung/deep-green-space

Old Bailey Decisions
- Classified trial outcomes (guilty/not guilty) based on text transcripts from trials + additional metadata about the persons involved. Used ML algorithms built from scratch in python.
- My best model achieved a test accuracy of 85.18%, placing me at #2/103 in the final standings.
- View on Github: https://github.com/mkcyoung/old-bailey-decisions

experience

Research Assistant • Scientific Computing and Imaging Institute • 2020 – Present
- Advisor: Bei Wang – University of Utah
- Developed a web-based, interactive visualization using d3.js to explore the multi-network relationship between the power distribution and electrical bus transit system of Park City, Utah. [arXiv]
- Created a tool with d3.js which visualizes the uncertainty of various graph reduction algorithms.
- Contributed to a survey covering visualization efforts in astronomy over the previous decade.

Medical Technologist • ARUP – Molecular Oncology • 2018 – Present
- Extract clinical patient DNA and RNA from multiple specimen types using a variety of techniques.
- Perform various clinical assays centered around PCR to identify oncogenic mutations in patients.
- Analyze and verify patient results using several different software/hardware platforms.

programming

Fluent: Python (+numpy, pandas, scikit-learn, PyTorch, Jupyter notebooks), Javascript (+d3.js), CSS, HTML
Intermediate: SQL, MATLAB, LabVIEW, C