# michael young

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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