# Michael Young

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Github: https://github.com/mkcyoung | Portfolio: mkcyoung.github.io

## EDUCATION

**University of Utah** – Salt Lake City, UT **2019 - 2021**
***MS in Computing,*** *Data Management and Analysis Track*

- Relevant Coursework: Advanced Algorithms, Data Mining, Data Visualization, Machine Learning, Deep Learning, Clustering, Structured Prediction, Information Extraction

**University of Utah** – Salt Lake City, UT **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.
- Tools: Javascript (+d3.js), HTML, CSS
- View live demo: https://usmart.ece.utah.edu/power-transit-vis/
- View publication 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. Achieved a pixel-wise accuracy of 96.1% & an mIoU of 74.8% on our test set.
- Tools: Python, PyTorch
- 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. My best model achieved a test accuracy of 85.18%, placing me at #2 out of 103 in the final standings.
- Tools: Python, PyTorch
- View on Github: https://github.com/mkcyoung/old-bailey-decisions

## EXPERIENCE

**Research Assistant** **January 2020 - February 2021**
***SCI (Scientific Computing and Imaging Institute) – Salt Lake City, UT***

- 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. [publication]
- Created a tool with d3.js which visualizates the uncertainty of various graph reduction algorithms. [in process]
- Contributed to a survey covering visualization efforts in astronomy over the previous decade. [submitted]

**Medical Technologist** **January 2018 - Present**

***ARUP (Associated Regional and University Pathologists) – Salt Lake City, UT***

- Extract clinical patient DNA and RNA from multiple specimen types using a variety of techniques.
- Perform various diagnostic assays centered around PCR to identify oncogenic mutations in patients.
- Analyze and verify patient results using several different software/hardware platforms.

## SKILLS

***Programming:***

- Proficient: Python (numpy, pandas, PyTorch, scikit-learn), Javascript (d3.js), CSS, HTML
- Basic: SQL, MATLAB, LabView, C

***Other:***

- Technical writing, Microsoft Office