

Andrew Carr

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EDUCATION

M.S. Computer Science

Brigham Young University

Apr 2020

Provo, UT

B.S. Applied and Computational Mathematics; 3.81

Brigham Young University

Apr 2018

Provo, UT

WORK EXPERIENCE

Machine Learning Engineer Intern

Qualtrics

May 2018 - Aug 2018

Provo, UT

- Researched and implemented phishing detection tool using sophisticated feature engineering, random forest, and logistic regression techniques. Achieved ~96% accuracy with a .005% false positive rate, matching state of the art
- Engineered and developed asynchronous API using parallel processing and high performance computing techniques to achieve a 3x speed up resulting in a 63% reduction in hardware costs and handling 3 million daily requests
- The final estimated impact of this project is \$300k - 500k in yearly savings
- Built question similarity tool using sentence embeddings after collecting and curating a dataset of ~130,000 questions. Improved f1 score from .3 to ~.7 built using both structured and unstructured datasets

Machine Learning Researcher

Amazon Alexa Prize Team Eve

Jan 2018 - Apr 2018

Provo, UT

- Designed and built an offensive speech filtering system using probabilistic methods, which performed ~3% better than current industry standards
- Researched and designed a complex sentiment analysis tool that classified sentences as having complex sentiment used for noteworthy knowledge retrieval

Deep Learning Researcher

BYU Perception, Control, and Cognition Lab

Dec 2016 - Present

Provo, UT

- Developed parallel solutions to augment arbitrary image data sets and simulate MRI results, reducing processing time by 300%
- Designed and built a deep learning platform to reduce background noise for hearing aid users resulting in a system that reduced the signal to noise ratio by 197%

Software Engineer

Private Capital Group

May 2016 - Oct 2016

Alpine, UT

- Developed Django Python web solutions to significantly increase employee effectiveness by creating automated systems that resulted in yearly savings of over \$200,000
- Collected, cleaned, and analyzed internal and external data which was built into reporting dashboards that tracked key business insights and allowed partners to make informed decisions
- Designed and constructed full testing suite for both front and back end testing resulting in a 47% decrease in product downtime

IT Lab Research Fellow

Carnegie Mellon University

June 2015 - Aug 2015

Pittsburgh, PA

- Excelled in machine learning course work as a top 3 student in the cohort, achieving a 4.0
- Analyzed data and developed a custom web game to help local refugees learn English

OTHER EXPERIENCE

Communication: Selected by faculty and staff to represent my college's 4,000+ students by presenting my research to BYU's \$1 million+ donors and top administration.

1st place BYU ACM Hackathon 2016: Created *Mathify* app using polynomial interpolation to display text as math

1st place BYU ACM Hackathon 2017: Created Auto Dino program to perfectly play the chrome dino no wifi game

2nd place Global Legal Hackathon Utah: Made a chrome extension that uses NLP to read and summarize terms and conditions for people before they accept them.

Computer Vision/Control Theory: Developed computer vision curriculum for a control theory class and built an autonomous following car

Web Scraping: Extensive experience collecting data using selenium and other web scraping frameworks