

# Andrew Carr

<https://andrewnc.github.io>

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(509)-654-8520

## WORK EXPERIENCE

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### Machine Learning Engineer Intern

May 2018 - Aug 2018

*Qualtrics*

*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
- Identified, explored, and implemented state of the art emerging topic tracking system which allowed my team to reach their stretch goals for the quarter
- The final estimated impact of my internship is \$300k - 500k in yearly savings

### Machine Learning Researcher

Jan 2018 - Apr 2018

*Amazon Alexa Prize Team Eve*

*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

Dec 2016 - Present

*BYU Perception, Control, and Cognition Lab*

*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 increased the signal to noise ratio by 197%

### Software Engineer

May 2016 - Oct 2016

*Private Capital Group*

*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

June 2015 - Aug 2015

*Carnegie Mellon University*

*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

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**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.

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

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

**2<sup>nd</sup> 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

## EDUCATION

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### M.S. Computer Science

Apr 2020

*Brigham Young University*

*Provo, UT*

### B.S. Applied and Computational Mathematics; 3.81

Apr 2018

*Brigham Young University*

*Provo, UT*