

# Matthew Canova

[matthewcanova.github.io](https://matthewcanova.github.io)

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I am a Computer Scientist specializing in back-end development and Machine Learning/Artificial Intelligence. I have experience in QA, Product Management, and API Development, and I am excited to work with a high-performance team to develop elegant solutions to important problems.

## Projects

More projects and source code at [matthewcanova.github.io](https://matthewcanova.github.io)

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**Visual QA Convolutional Neural Network** - Working in the R&D phase of an end-to-end Deep Learning Visual QA system hosted in GCP, utilizing GCS, App Engine, and Compute Engine.

**Story Point Predictor** - Gathered title and description data on dev tickets with story point assignments and used Machine Learning and NLP to train a classifier that predicts story point values.

**Scam Protector** - Worked with a Senior Capstone team to develop an sklearn SVM classifier e-mail filter in Python to identify social engineering attempts against vulnerable technology users.

**Opinion Extraction** - Worked on a team using Stanford NLP, Liblinear, and SentiWordNet in Java to extract opinions from news articles and then identify the agent, target, and polarity of the opinion.

**Twitter Bot Classifier** - A suite of Python implementations for Perceptron, SVM, Naive Bayes, Logistic Regression, Decision Tree, and Random Forest classifiers — all applied to Twitter bot detection.

## Education

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**University of Utah**, Bachelor of Computer Science, 3.3 GPA; Salt Lake City, UT — Graduated Dec. 2018

**Electives** - Machine Learning, Deep Learning, Natural Language Processing, Artificial Intelligence, Information Extraction, Data Mining, and Advanced Data Visualization

**Languages** - Expert in Python, Proficient in Java and Node/Javascript, Experience with C#, C++, C

## Work Experience

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<b>Principal Architect/Engineer, Self-employed</b>	Draper, UT	2020-Present
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Lead designer and architect on an end-to-end automated Visual QA system driven by state of the art in Deep Learning, with data gathering, training, and hosting in GCP.

<b>Software Engineer II, Workfront</b>	Lehi, UT	2019-2020
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Developed new features in an AWS Lambda based service, exposed through AWS API Gateway, including integrations with Dynamo DB, Elastic Search, and Neptune Graph DB. Drastically improved performance on large scale queries against the graph db from 15 seconds to under 2 seconds. Led the engineering design and implementation for the back-end team on the Admin Tools project.

<b>Teaching Assistant, University of Utah</b>	Salt Lake City, UT	2015-2018
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Helped teach and mentor undergraduate Computer Science students through labs and one-on-one help in both Java and Python courses. Assisted the Professor with grading, lectures, and class logistics.

<b>Product Manager/Sr Manager, TD Ameritrade</b>	Draper, UT	2011-2014
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Managed the Education Technology product portfolio. Lead Product Manager over the release of the Top-Down Analysis Tool Market 360. Led a team of Product Managers, UI Designers, and QA Engineers to deliver the industry-leading TDA Education Center.

<b>QA Engineer/QA Lead, TD Ameritrade</b>	Draper, UT	2009-2011
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Led a team of QA Engineers, onsite and remote, to deliver high quality software products in an agile environment. QA Lead during the successful launch of the Curriculum and Pricing Redesign.

<b>Intelligence Analyst, 19th Special Forces GSC</b>	Draper, UT	2003-2011
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Geospatial Intelligence Analyst (96D) attached to the 19th Special Forces, Army National Guard.