

# Derek Gorthy

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## EDUCATION

### University of Colorado at Boulder

May 2018

**College of Engineering and Applied Sciences (Engineering Honors Program):** B.S. in Computer Science, interest in Big Data  
**Leeds School of Business:** B.S. in Business Administration with an Emphasis in Finance and a certificate in Quantitative Finance  
Cumulative GPA: 3.754

- **Relevant Courses:** Natural Language Processing, Machine Learning, Object-Oriented Analysis/Design, Data Mining, Artificial Intelligence, Operating Systems, Algorithms, Data Structures, Applied Probability, Linear Algebra

## TECHNICAL SKILLS

Languages: Python, C++, Java, Node.js, C, Bash, Scala, R, HTML, VBA, and XAML

Big Data Technologies: Hadoop, Hive, Pig, Sqoop, Teradata, MongoDB, Web API, MapReduce, UC4, and ETL tools

Tools/Other: SQL, MySQL, JSON, NoSQL, Vim, Regex, Git, CMake, IntelliJ, Eclipse, Microsoft Word, Powerpoint, and Excel

Operating Systems: OS X, Windows, Ubuntu, Linux, and Tails

## EXPERIENCE

### Comcast, Denver, CO

May 2017-August 2017

#### *Big Data Engineering & Technology Intern*

- Created a Java web API to run in a containerized cloud environment. Tested API response against existing benchmarks, developed performance and security criteria, and created a scalable solution for sub-second queries.
- Optimized application VIPs using visitor geolocation data, historical load data, and SLA reports.
- Developed several in-production data ingestions from various sources. Combination of Big Data Technologies listed above.

### University of Colorado, Boulder, CO

August 2016-December 2017

#### *Computer Science Department Course Assistant and Private Tutor*

- Host office hours, conduct help sessions and provide email correspondence for Algorithms and Operating Systems.
- Solidified knowledge of core concepts taught in each course and improved my ability to debug others' code.
- Honed ability to explain key concepts in multiple ways; this was extremely important when discussing abstract algorithms.

### Sandia National Laboratories, Albuquerque, NM

May 2016-August 2016

#### *Cyber Engineering Research Laboratory (CERL) Undergraduate Intern*

- Automated the querying process of a geospatial temporal semantic graph for large-scale testing and analysis.
- Created testing suite for the graphing codebase using C++, python, bash scripts, and CMake capabilities.
- Designed a tool to process large quantities of output data and display useful statistics to non-technical customers.

## TECHNICAL PROJECTS

### **Cryptosub.io: Big Data Architecture Project (ranked top 3 in class)**

- Developed streaming architecture to display prices and relevant tweets using Kafka, Spark Streaming, and a Go socket layer.
- Indexed 95 million tweets for the historic query view using Kafka, Spark, MongoDB, Python, Scala and a Go API layer.
- Created aggregate count cache to improve historic query response time 500x and significantly reduced server load.

### **IOT Monitor for Weather Conditions (partnered with LGS Innovations)**

- Designed and integrated a series of sensors into LGS Innovations' IOT framework using Node.js, MongoDB, and Python.
- Open sourced a reusable template for displaying readings from a database graphically to a non-technical user.
- Developed a method to model snow layering in real time and send notifications on specified layering conditions.

### **Feature Film Features: Movie Poster Classification Machine Learning Project**

- Leveraged convolutional neural network with sparsemax classification to identify movie genres from movie poster.
- Trained network with 40,000 IMDB images on Amazon's elastic GPU platform. Achieved an f-score of 0.41.

### Platinum Wireless Solutions, LLC

May 2012-Current

- Created and manage an online retailer of pre-owned consumer electronics. Forecasted gross sales of \$200,000 in 2018.
- Developed automated inventory alert system to predict inventory turnover and generate suggested purchase orders.

## HONORS AND AWARDS

- Member of and Recitation Leader for the University of Colorado's Engineering Honors Program (2014, 2015, 2016, 2017)
- Dean's List Fall 2014, Fall 2015, Fall 2016, and Spring 2017
- The Mathematical Contest in Modeling Outstanding Winner (2015, 2018), Meritorious Award (2016, 2017)