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, Big Data Architecture, Machine Learning, Object-Oriented Analysis/Design, Data Mining, Artificial Intelligence, Operating Systems, Algorithms, Data Structures, Applied Probability

TECHNICAL SKILLS

Languages: Python, React, Go, Java, C++, Node.js, C, Bash, Scala, R, HTML, VBA, and XAML
Big Data Technologies: Spark, Hadoop, Hive, Pig, Sqoop, Teradata, MongoDB, Keras, Pandas, NumPy, SciPy, UC4, and ETL tools
Tools/Other: MongoDB, SQL, MySQL, JSON, NoSQL, Vim, Regex, Git, CMake, IntelliJ, Eclipse, 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, 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.

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.

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.

Correlation in Cause of Death: Data Mining Analysis on CDC Dataset

- Demonstrated the ability to preprocess/clean data, identify correlations, predict trends, and present findings.
- Performed work in Hadoop ecosystem, replicated scripts in Python and R, developed web API to form Hive queries.

HONORS AND AWARDS

- The Mathematical Contest in Modeling Outstanding Winner (2015, 2018), Meritorious Award (2016, 2017)
- 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