Dylan James McDowell

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EDUCATION

BYU-IDAHO
B.S. Applied Mathematics
December 2018 | Advanced GPA: 3.68
Specialized focus in: Probability Theory, Machine Learning, Data Science, and Experimental Design

BYU-IDAHO
B.S. Financial Economics
December 2018 | Advanced GPA: 3.67

SKILLS

MINORS
• Computer Science: 25 Credits

PROGRAMMING
Proficient
• R • Julia • Python • MySQL
• Bash • Java • C++ • LaTeX

EXTRA CURRICULAR

CFA Research Challenge: State Champions; due diligence report and presentation to panel of CFA Judges

Economics Society President: Mentored students interested in Economics by planning guest speakers relevant in the field of Economics.

Investment Society President: Managed the society's $5.2 million endowment fund.

Mathematics TA: Developed an R tutorial video series for the Mathematics Department to help students and staff learn how to program using the statistical computation language, R.

Computer Science TA: Assisted students in understanding Abstract Data Types, Sorting Algorithms, Class Structuring, Inheritance, and Polymorphism.

COURSE WORK

UNDERGRADUATE
Econometrics
Object Oriented Programming
Machine Learning
Probability & Statistics
Data Vizualization
Quantitative Methods
Discrete Mathematics
Bayesian Statistics
Linear Algebra
Data Structures

PROFESSIONAL EXPERIENCE

COMPUTATIONAL SCIENCE INTERN | DOE Idaho National Labs
Jan 2019 – Present | Idaho Falls, ID
• Developed documentation framework for multiphysics simulation engine BISON using Python which allows users to access code, examples, and tutorials much easier.
• Migrated code from using libxml2 to rapidxml to increase performance of GRIZZLY code base using C++.
• Visualized large scale assessment data using Cubit and Matplotlib from the output of the nightly runs on the INL's high performance computing system.

DATA SCIENTIST | Research & Business Development Center
April 2018 – Dec 2018 | Rexburg, ID
• Saved the firm thousands of dollars in labor and validation costs by building a full-stack data entry software that automated statistical & experimental analysis including visualizations using *Shiny*, *R*, *SQL*, and *Javascript*
• Automated the statistical analysis of 15+ client projects using R to check assumptions and run multi-block ANOVA and non-parametric Tukey Test on project data

DATA SCIENCE LAB MANAGER | BYU-Idaho Tutoring Services
September 2017 – Present | Rexburg, ID
• Instructed students using R to complete assignments across many different subjects
• Taught students how to view analytical problems by encouraging them to utilize the tidyverse methodology of R
• Tutored individuals on how to solve problems by utlizing several tools such as Stack Overflow, Slack, Cross Validated, etc

SUMMER ANALYST - PRIVATE EQUITY | Goldman, Sachs & Co.
June 2017 – August 2017 | Salt Lake City, UT
• Generated cash flow analysis, distribution, and fund performance reports
• Automated several weekly deliverables using Python and Excel VBA
• Forecast revenues to the alternative investments business using regression analysis
• Engineered several programs in VBA, R, and Python to assist analyst in large projects

STATISTICAL ANALYST | BYU-Idaho Statistical Consulting Group
January 2017 – April 2017 | Rexburg, ID
• Modeled student foot traffic and crowd behavior in a geospatial analysis using R
• Created an interactive user dashboard for all campus businesses using R-Shiny
• Programmed several scripts in R to retrieve, clean, and visualize data

RESEARCH EXPERIENCE

Visual Altimeter using Convolutional Neural Nets
Fall 2018 | Brigham Young University - Idaho, Dept. of Mathematics
• Worked with a professor and client to develop a CNN to determine height above the ground using a drone image as input
• Simulated data using Microsoft's AirSim to gather training data at different heights and then used Python and Keras to train a CNN to classify heights based on input picture with 87% accuracy

Analyzing Future Success of Gap Year Students
Winter 2017 | Brigham Young University - Idaho, Dept. of Economics
• Assisted professor in Post-Doc research using a Dynamic-Factor Hidden Markov Model
• Cleaned large datasets provided from the NLSY97 study using R and STATA scripting, helped refactor previously written code
• Programmed a web-scraping application in Python that was able to find a list of the top colleges in United States going back to 2002