

Benjamin James Busath

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EDUCATION:

B.S. Applied & Computational Mathematics Emphasis

April 2021

Brigham Young University

Machine Learning Concentration

Notable Classes:

Computer Science: Deep Learning, Algorithm Design and Optimization, Data Structures

Mathematics: Statistics, Linear Algebra, Calc II, Calc III, Differential Equations, Mathematical Analysis

Business: Principles of Economics

SKILLS:

- Python (Pandas, NumPy, Sci-Kit), SQL, Machine Learning, APIs, web scraping, C++, Git
- Junior year skills:

Gradient Descent	Singular Value Decomposition	Data Structures
A/B Testing	Q-Learning	Thompson Sampling
Wavelets	Fourier Analysis	Krylov Subspaces

RELEVANT EXPERIENCE:

Research Assistant, BYU Economics Dept.

October 2018 – Present

- Contribute to development of an adaptable Python code suite for the purpose of historical record linking using machine learning
- Co-writing paper describing record linking process and machine learning pipeline
- Lead team of three research assistants on backend effort to increase coverage rate of African Americans on crowd-sourced genealogical website by 200%
- Code several Python API methods for posting and extracting data to and from FamilySearch.org
- Use Linux clusters to filter and merge large datasets of 100+ million rows

Data Science Intern, Mental Gurus.

October 2019 – Present

- Lead team of interns for a small startup that uses machine learning to recommend mental health solutions
- Research and develop a recommendation engine that uses AWS Personalize
- Develop proof-of-concepts to show investors, report directly to CEO and other internal team leaders

Personal Data Projects

- Created an ensemble machine learning model utilizing sci-kit pipelines that classified income, AUC Score: 0.7859, F1 Score: 0.6855, Accuracy: 0.8639
- Conducted and published a data exploration of a bike share service utilizing SQL queries and Python
- These and other published projects can be found on my GitHub

CAMPUS INVOLVEMENT:

BYU Data Science Club, Vice President

December 2018 – Present

- Design and teach training curriculum, engage with students for growing club of 200+ members
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