

JACK BAI

DATA ANALYST

TECHNOLOGIES

Python | Pandas | Numpy
Jupyter | R | R Markdown
ggplot | LaTeX | Django
Bash | Git | SQL | Node.js

RELEVANT COURSEWORK

Advanced Regression

Learned various regression techniques including penalized and non-parametric approaches

Data Visualization

Delivered multi-dimensional displays to optimize clarity and avoid visual misspecification

Data Structures and Algorithms

Implemented robust solutions in C to assignment specifications

Applied Linear Models

Utilized R to optimize Multiple Linear Regression Models

Computational Statistics

Used R Markdown to produce visually professional reports

Experimental Design

Applied systematic approaches to prove hypothesis on real-life data

HOBBIES AND INTERESTS

Collegiate E-sports Athlete at the University of Waterloo

Winner of Collegiate Star League for League of Legends (\$5000USD)

Gaming Data Enthusiast

CONTACT



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EXPERIENCE

DVF SOFTWARE ENGINEER

Dematic Virtual Systems | Sep 2021 - Dec 2021

- Lead performance analysis with 95% effective results using AWS EC2 instances to encourage integration of cloud computing to minimize production costs for future development
- Refactored testing framework to include Data Driven principles for efficient adaptability and cleaner code management
- Designed unified machine language diagrams to illustrate complex communication between objects

INSTRUCTIONAL SUPPORT ASSISTANT (CS 116)

University of Waterloo | Jan 2021 - April 2021

- Helped students conceptually understand high-level data structures through 110+ hours of individualized instruction
- Sharpened Python knowledge by integrating student code to reach unique solutions
- Promoted fluid teamwork and collaboration through initiating dialogues between colleagues and professors for course consistency

INSTRUCTIONAL SUPPORT ASSISTANT (CS 136)

University of Waterloo | May 2020 - Aug 2020

- Used Bash scripts to automate testing assignments and course knowledge through a SSH connection
- Quickly adapted to an online environment, providing one-on-one support to dozens of students weekly through Microsoft Teams
- Showed exemplary interpersonal and presentation skills, receiving a perfect grade from anonymous feedback polls by students

PROJECTS

WINRATE ANALYSIS OF TEAM-BASED ONLINE GAMING

Python | Numpy | Pandas | Jupyter | Markdown

- Systematically collected and pre-processed online match data from League of Legends through API requests
- Conducted statistical testing of win rates for online identities in various settings

COVID-19 PROTEIN STRUCTURE MODEL EXPLORATION

R | R Markdown | Regression

- Employed a sequential process of variable selection to filter out over 600 explanatory variables
- Applied step-wise variable elimination with different penalties to reach an optimal based on statistical measures

NETFLIX OPTIMIZATION

R | R Markdown | Numerical Optimization

- Employed statistical methods on multi-factor variable data to select factor optimality conditions, maximizing customer retention

EDUCATION

CANDIDATE FOR HONOURS MATHEMATICS, STATISTICS

University of Waterloo | 2018 - 2023