

# Brendon Gu

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## EDUCATION

**Carnegie Mellon University** Pittsburgh, PA May 2022

B.S. in Mathematics (Statistics Concentration), Minor in Computational Finance, Minor in Computer Science  
Cum. QPA: 3.75/4.0

### Coursework:

Statistical Inference, Modern Regression, Operations Research, Numerical Methods, Mathematical Finance  
Machine Learning, Statistical Computing, Functional Programming, Theoretical Computer Science

## EXPERIENCE

**Regeneron Pharmaceuticals** Canceled due to COVID-19 - Summer 2020  
Prospective Advanced Analytics Intern Sleepy Hollow, NY

**AMAG Pharmaceuticals** May 2019 - July 2019  
Drug Safety Intern Waltham, MA

- Developed custom SQL queries to retrieve and process patient safety data from ArisGlobal database.
- Designed visualizations and analytical dashboards in Tableau to present case processing metrics and facilitate medical event signal detection.
- Provided Tableau training and guidance to pharmacovigilance and medical teams.

**CMU Academic Development** Feb 2019 – Present  
EXCEL Leader, Concepts of Mathematics / Calculus in 3D Pittsburgh, PA

- Completed semester-long training course in effectively facilitating supplemental instruction sessions using collaborative instructional techniques.
- Wrote handouts for, planned, and lead weekly small-group sessions for traditionally challenging math courses during the 2019-2020 school year.

## PROJECTS

**Tableau Iron Viz 2020** Jul - Aug 2020

- Gathered and compiled data about diets and created a long-form interactive visualization in Tableau for the 2020 Tableau Iron Viz Qualifier.
- **Link:** <https://tabsoft.co/3a1gUIf>

**ML Algorithm Implementation** Summer 2020

- As part of course in machine learning, implemented several ML algorithms from scratch using Python including logistic regression, backpropagation, forward-backward algorithm, and Q-learning.

**NFL Big Data Bowl** Dec 2018 - Jan 2019

- With partner, used statistical modeling in R to create an expected catch probability model and to consider new standards for pass interference; proposed a novel two-level system for interference calls.
- Selected as **one of four college finalists** in the inaugural event and presented findings to members of the NFL league office, team executives, and league sponsors at the 2019 NFL Combine in Indianapolis.
- **Paper:** [operations.nfl.com/media/3667/big-data-bowl-cmu.pdf](https://operations.nfl.com/media/3667/big-data-bowl-cmu.pdf)

## SKILLS

**Languages:** Python, R, C++, C

**Databases:** SQL Server, PostgreSQL, Oracle

**Visualization:** Tableau, ggplot2, matplotlib/seaborn, d3.js

## ACTIVITIES

CMU Sports Analytics Club Aug 2018 - Present

CMU Club Ultimate Frisbee Aug 2018 - Present

CMU Club Baseball Jan 2020 - Present