

# David Liu Cao

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United States Citizen

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## EDUCATION

**Boston College** (*Morrissey College of Arts and Finance, Economics Department*)

- Ph.D. in Economics 2018-2024 (expected)
- M.A. in Economics 2020

**Boston College** (*Carroll School of Management, Honors Class of 2018*)

- Mathematics and Finance Major GPA 3.87 (Dean's List First Honors)
- Standardized Tests: SAT Reasoning Test: 2320 GRE: 170+170

Computer Programming: Java, iOS Swift, Python

Statistic Programs: SAS (completed *SAS Programming I*), Mathematica, Tableau

## ACADEMIC ACHIEVEMENTS

2017	Member of Beta Gamma Sigma Scholastic Business Honor Society
2016	Nominated for Golden Key International Honour Society
2015	National Merit Scholarship finalist
2014	American Mathematics Contest (AMC12A: Distinguished Honor roll; Ranked 13 in MA)

## EXPERIENCE

2015-2018 **Research Assistant**, Boston College

- Worked for Professors Tieying Yu and Metin Sengul at Boston College. Coded the competitive actions of US airlines published by *Aviation Daily* using structural content analysis.
- Worked for Professor Dan Li at Indiana University. Coded demographic information of over 60,000 pharmaceutical scientists.
- Working for Professors Tieying Yu and Vivian Guo at Boston College. Extracted data on competitive actions of US airlines by writing a Java script, and coded the competitive actions of US airlines published by *Aviation Daily* using structural content analysis.

Summer 2017 **Data Science Intern**, Seven Bridges *a genomics company*

Was a full time employee at Seven Bridges. Integrated the company's HLA identification tool into its platform/product, and benchmarked it against other identification tools--gathering information on 50 genome samples with experimentally verified HLAs, then running each tool on each sample and recording the results to help the company improve its own tool.

Summer 2016 **Genomics/Bioinformatics Intern**, Seven Bridges *a genomics company*

Was a full time employee at Seven Bridges, which ranks among the top 50 smartest companies according to 2016 MIT Technology Review. Studied haplotype/inheritance patterns, methods of simulating multivariate correlation, and programming in Python. Worked in a small group with other student employees, regularly creating presentations to share progress and information, as well as exchanging ideas and helping each other with new problems. Created a program that generates a simulated population following a user specified haplotype pattern or retaining the pattern of a sample data, in order to test tools that rely on haplotypes. These tools potentially can be used to more easily sequence a genome by limiting possible sequences over a genome, or identify uncommon mutations via the presence of a more easily detected associated mutation.

Summer 2015 **Research Assistant**, Hong Kong Polytechnic University

Helped collect data of airline competitive actions for Professor Vivian Guo at Hong Kong Polytechnic University. This project has won a research grant at the amount of HK\$500,000 from [Hong Kong government's General Research Fund \(GRF\)](#).

Summer 2014: **Data Science Intern**, Turbine Inc. *A top gaming company owned by Warner Brothers*

Worked on a project analyzing game players' behavior and their satisfaction in the Multiplayer Online Battle Arena (MOBA). Used professional data analysis tools (Mathematica and Tableau) to analyze player data to identify factors that may predict the occurrence of some types of behavior that may negatively impact the gaming experience. Created a write up on the findings of this analysis, and developed a set of predictive models using subtle multivariate patterns of behavior identified through data mining that may improve the quality of the new game that was still in beta version.

2014-2015: **Peer tutor**, Newton South High School Math Center

#### **OTHER INTEREST**

Tae Kwon Do-Black Belt First Degree; Piano; Travel; Reading