

# PATRICK BEAL

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## EDUCATION

### Brigham Young University

April 2026

*Bachelor of Science*

*Provo, Utah*

- Double Major: **Applied & Computational Mathematics** (ACME) and **Economics**
- Wheatley Scholar—see [wheatley.byu.edu/student-scholars](http://wheatley.byu.edu/student-scholars)
- GPA: 3.90
- Dean's List in the College of Computational, Mathematics, and Physical Sciences (3x)
- Relevant Coursework:

Optimization & Algorithm Design	Mathematical Analysis
Statistics & Machine Learning	ODEs, PDEs, & Optimal Control
Advanced Data Structures and Software	Microeconomics, Econometrics

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## SKILLS

- Proficient in Python (including NumPy, SciPy, pandas, etc.), C++, Java, Stata, SQL, UNIX, Git
- Mathematics

Optimization (Dynamic, Numerical, Convex)	Statistical Modeling & Sampling (Bayesian)
Linear Algebra & Matrix Analysis	Statistics and Machine Learning
- Economics

Microeconomic Modeling	Econometric Analysis
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## EXPERIENCE

### Research Assistant

August 2024 – Current

*Brigham Young University, Office of the President*

*Provo, UT*

- Compile research to aid the university president in decision making to help BYU more effectively accomplish their Mission and Aims

### Research Assistant

December 2023 – Current

*Brigham Young University, Department of Mathematics*

*Provo, UT*

- Design and implement Bayesian models for accurate detection of biomarkers in noisy photoplethysmogram (PPG) signals

### Mathematics Grader (Math 290)

August 2023 – December 2023

*Brigham Young University, Department of Mathematics*

*Provo, UT*

- Grade and provide instruction to 20 students on proofs in logic, set theory, discrete math, number theory.

### Full-Time Volunteer Representative

August 2021 – August 2023

*The Church of Jesus Christ of Latter-day Saints*

*Rochester, NY*

- Developed scripts using Google Apps Script and Google Sheets to maintain a fleet of nearly 100 vehicles

### Research Assistant

April – August 2021

*Brigham Young University*

*Provo, UT*

- Created documentation for running Bayesian statistical sampling tests with geologic computing software using Python – see [tsunami.byu.edu/whitehead-lab](http://tsunami.byu.edu/whitehead-lab) for research results

### Brass Salesperson (Software Developer)

July 2018 – January 2021

*Summerhays Music Center*

*Orem, UT*

- Provided customized support to clients as they searched for instruments and musical gear to fit their needs
- Automated payment entry process using PyWinAuto, reducing data entry time by 85%