

OLIVER BACCAY

Boston, MA

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Availability: May – December 2026

Education

Northeastern University

Boston, MA

B.S. Mathematics, Minor: Data Science

May 2028

- GPA: 4.0/4.0
- Relevant Coursework: Probability and Statistics, Macroeconomics, Advanced Programming with Data, Business Statistics, Calculus III, Differential Equations & Linear Algebra, Foundations of Data Science, Physics II

Northeastern University London

London, UK

Year-Long Study Abroad

Sep 2024 - May 2025

Professional Experience

Nicolaysen Insurance Agency

Chappaqua, NY

Insurance Intern

July 2025 - Aug 2025

- Improved quoting efficiency by 66% by centralizing initial quotes, reducing required staff while maintaining output.
- Generated 25+ personal line quotes by analyzing risk profiles and comparing carrier pricing, identifying cost-saving options.
- Audited 200+ client files in Applied Epic and Excel, ensuring policy data accuracy, renewals, cancellations, & modifications.

Sarah Lawrence College

Bronxville, NY

Physics Research Intern (Nuclear Magnetic Resonance, NMR)

May 2024 - Aug 2024

- Conducted T1 & T2/T2* relaxation experiments using benchtop NMR to collect Magnetic Resonance signal datasets.
- Analyzed experimental data via Fourier transforms in Excel, creating detailed visualizations for research documentation.
- Applied quantum mechanical principles to analyze complex signal transformations across frequency and time domains.

Leadership and Involvement

Algorithmic Investments & Quantitative Solutions | *Co-Vice President & Researcher*

Sept 2025 - Present

The Actuarial Club | *Active Member*

Sept 2025 - Present

DATA Club | *Snowball Program*

Sept 2025 - Present

Northeastern London STEM Society | *Co-Founder & Secretary*

Sept 2024 - May 2025

Actuarial Exams

- Exam P (Probability) Sitting - Jan 2026

Relevant Projects

[Life Insurance Premium Estimation Calculator](#) | *Python, Shiny, NumPy*

Sep 2025

- Developed an interactive Shiny app to estimate life insurance premiums by modeling mortality probabilities from age, BMI, sex, and nicotine use, incorporating actuarial-style loadings and risk adjustments to calculate the death benefit.
- Implemented a dynamic interface to enable real-time premium updates, simulating practical pricing tools.

[Music Genre Classification Model](#) | *Python, scikit-learn, XGBoost, seaborn, matplotlib, pandas*

Apr 2025

- Implemented and evaluated machine learning models (KNN, Random Forest, SVM) to classify 17,000+ songs into 11 genres using audio features, achieving 50%+ accuracy with SVM.
- Created heatmaps and clustering plots to analyze feature importance and clustering (K-Means), highlighting key predictors.

Skills and Interests

Technologies: Python, Excel, SQL, Microsoft Office Suite, Google Suite

Software/Tools: Pandas, Seaborn, Plotly, Scipy, NLTK, Statsmodels, Scikit-Learn, Github, HoloViz

Interests: Electric Guitar, Boulderling, Audio Engineering, Content Creation, Premier League, Digital Cameras