BRIELLE G. YOUNG

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EDUCATION

Cornell University | BS in Biometry & Statistics, Minors in Computer Science and Biomedical Sciences Expected May 2027
Activities and Societies: Engineering Leadership Development Certification Program, Women in Computing at Cornell (WICC)

SKILLS

Technical: Python, R, SQL, JavaScript, MATLAB, PyTorch, TensorFlow, Sklearn, Statistical Modeling, Machine Learning
Software: Microsoft Office Suite, Figma, Canva
Certifications: Machine Learning Foundations (Cornell University), Microsoft Excel Certified (2023)

RESEARCH EXPERIENCE

Undergraduate Researcher Aug 2025 - Present
Applied Phylogenetics Lab at Cornell University | Ithaca, NY

- Model somatic hypermutation (SHM) rates in germinal centers using stochastic bitstring simulations.
- Develop mathematical frameworks to quantify SHM dynamics under single- vs. double-dose conditions and homologous vs. heterologous vaccination regimes.

NSF Biology REU Intern May 2025 - August 2025
American Museum of Natural History | New York, NY

- Conducted computational research on RNA virus evolution using graph-based phylogenetic algorithms and bioinformatics pipelines under Dr. Ward Wheeler.
- Analyzed large-scale RNA virus metatranscriptome data, revealing fragmentation patterns that challenge pre-existing deep alignment-based phylogenies.
- Demonstrated methodological limits of alignment approaches and provided evidence supporting alignment-free frameworks for more reliable viral evolutionary inference.

Marine Conservation Extern May 2024-July 2024
The National Geographic Society + The Nature Conservancy | Remote

- Modeled Harmful Algal Bloom (HAB) occurrences with spatial regression and ArcGIS analysis.
- Delivered quantitative findings to conservation stakeholders to support risk-mitigation strategies.
- Integrated satellite and environmental datasets to predict coastal ecosystem vulnerability.

TECHNICAL & LEADERSHIP EXPERIENCE

AI/ML Fellow May 2024-May 2025
Break Through Tech AI @ Cornell Tech | Remote

- Selected from 3,000+ applicants and earned Cornell AI/ML certification.
- Developed supervised and unsupervised models in Python, collaborating with industry mentors on applied ML projects.
- Built predictive ADHD models in the WiDS Datathon 2025 using neuroimaging and socio-demographic data.

AI Studio Fellow Aug 2024 - Dec 2024
Mila | Remote

- Developed a multi-label MLP regression model to predict bird species encounter rates based on 29 features.
- Optimized model performance through feature weighting, hyperparameter tuning, and regularization.
- Conducted error analysis and ablation studies to refine predictive accuracy exceeding baseline benchmarks.

Artificial Intelligence (AI) Project Manager Jan 2024-May 2024
NEXIS Student Technology Lab | Syracuse, NY

- Directed a team of 10 on a machine learning project forecasting physical activity levels from campus data.
- Coordinated workflows across a 50-person AI lab, ensuring on-time deliverables, and hosting ML workshops.
- Recognized as ‘Best Leader’ by management for driving 100% project completion and measurable team impact.