

# Eamon O'Connor

oconnor.ea@northeastern.edu | 484-886-6691 | Boston, MA

[LinkedIn](#) | [Github](#) | [Website](#)

---

## SUMMARY OF QUALIFICATIONS

- Experience working in multiple teams of a fast-growing biotech startup, developed a strong foundation in experimental and analytical science
- Diverse professional background in civil engineering and veterinary medicine strengthened my ability to effectively communicate across disciplines
- Seeking a role with strong collaboration across multiple disciplines to advance therapeutic innovations

---

## EDUCATION

**Northeastern University**, Boston, Massachusetts

Expected May 2025

Master of Science in Bioinformatics

GPA: 3.867

*Coursework:* Unsupervised Machine Learning, Molecular Modeling, Immunology

**Northeastern University**, Boston, Massachusetts

June 2024

Bachelor of Science in Biology

GPA: 3.889

*Minors:* Philosophy, Civil Engineering

*Coursework:* Biostatistics, Calculus 2 & 3, Linear & Differential Equations

---

## SKILLS

**Programming Languages:** Python, R, SQL, Bash, MATLAB

**Statistics:** Regression Analysis, ANOVA, ANCOVA, Nonparametric Statistics, Data Visualization, Normalization

**Tools & Software:** AWS, Git, Nextflow, REST API, CodeOcean, Seqkit, UCSC Genome Browser, Ensembl

**Laboratory Techniques:** PCR, Gel Electrophoresis, Western blotting, Bacterial transformation, Protein purification

**Soft Skills:** Communication, Scientific writing, Adaptability, Attention to detail

---

## PROFESSIONAL EXPERIENCE

**Metaphore Biotechnologies**, Cambridge, MA

*Computational Biology Co-op*

January 2025 - Present

- Processed and analyzed NGS data from PacBio and Illumina reads, performing quality control, de-concatemerization, and demultiplexing
  - Developed a new workflow which reduced runtime by 60% without compromising precision or accuracy
- Characterized biopanning hits using counts matrices and MA Plots

*NGS & Protein Sciences Co-op*

July - December 2024

- Assisted in library preparation for Illumina and PacBio sequencers
- Synthesized protein samples in bacterial cell cultures and performed protein purification workflows
- Analyzed protein samples through various quantification and characterization techniques

**Metrovet Veterinary Clinic**, Boston, MA

*Veterinary Assistant Co-op*

July - December 2023

- Maintained detailed records for surgeries and medical exams
- Assisted in the safe handling, restraint, and care of animals during medical procedures and exams
- Processed in-house lab work for diagnosis

**Vanasse Hangen Brustlin, Inc.**, Washington, D.C.

*Civil Engineering Co-op*

January - June 2022

- Researched and designed road redesigns and intersection safety improvement plans
- Presented designs for review to internal groups and D.C. Department of Transportation representatives

---

## RESEARCH & PROJECTS

### Gut-brain-omics

September -December 2024

*Developed a Python program to analyze the correlation between gut microbiome composition and disease phenotypes*

- Applied statistical tests to assess bacterial abundance in disease vs. healthy groups
- Implemented data transformations and visualizations for dataset analysis
- Integrated APIs for automated data retrieval and analysis
- Designed customizable analysis pipelines for examining multiple bacteria-disease pairs
- Found significant negative correlation between Depression and relative abundance of Bifidobacterium in the gut

### SLE-RA Immune Heterogeneity

March - May 2024

*Reproduced and extended multi-omics analysis of immune system signaling in systemic lupus erythematosus (SLE) and rheumatoid arthritis (RA)*

- Analyzed immune cell communication using the R package *Cellchat*
- Examined changes in the Migration Inhibitory Factor and Galectin-9 pathways between healthy and disease groups
- Visualized findings with heatmaps, violin plots, circle plots, and chord plots

---

## VOLUNTEER EXPERIENCE

NUConnex Committee Member | Net Impact, Boston, MA

September 2020 - December 2021

- Led outreach to potential partner organizations in the community
- Coordinated club meetings to implement goals and long term projects
- Participated in onsite trash cleanups in Mission Hill and surrounding communities