

Nicholas Tse

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EDUCATION

Brandeis University

Apr. 2024 - June 2025

- MS in Bioinformatics **Online accelerated program with remote faculty; limited access to in-person research or internship opportunities**
- Relevant Coursework: Bioinformatics Scripting and Databases with Python, Biomedical Statistics with R, Cheminformatics, Computational Systems Biology

University of Massachusetts Amherst

Sep. 2017 - May 2021

- BS in Biochemistry & Molecular Biology | Commonwealth Honors College

SKILLS

Programming – R (Basic), Python (Basic), Bash (Basic), KNIME (Basic), Nextflow (Basic) | VSCode, RStudio

Bioinformatics Tools – BLAST, IGV, Jalview, PyMol, GEOquery, Pandas, ggplot2, RDKit, seaborn, samtools, bedtools

- Experience analyzing RNA-seq datasets from raw FASTQ files through alignment, quantification, and differential expression.
- Use of bash and command-line tools such as samtools, bedtools, and BLAST for manipulating and analyzing sequencing data.
- Developed modular and reusable scripts in Python and R for tasks such as sequence format conversion, gene filtering, and machine learning-based classification.
- Built multi-step data analysis pipelines integrating quality control, alignment, annotation, and visualization steps; experience structuring workflows for clarity and reproducibility.
- Maintained project code and analysis pipelines with clear documentation, including README files and usage instructions

RELEVANT PROJECTS

Structure-Based Drug Repurposing for MMP-13 Inhibition | *RBIF 110* – Brandeis University (Spring 2025)

- Filtered and clustered ~20,000 compounds from the Broad Drug Repurposing Hub using RDKit, PCA, and K-means.
- Performed virtual screening with Smina; validated docking method with ROC AUC
- Prioritized top candidates based on docking score, binding pose, clinical status, and safety

Transcriptomic Analysis of Chronic Inflammatory Disease | *RBIF 114* – Brandeis University (Fall 2024)

- Analyzed GSE156993 microarray data to identify differentially expressed genes (DEGs) across T2DM, dyslipidemia, and periodontitis patient subgroups
- Applied linear modeling and empirical Bayes moderation using the 'limma' package in R
- Performed GO and KEGG enrichment to link DEGs with inflammation, and metabolic pathways

WORK EXPERIENCE

CVS Pharmacy – Braintree, MA | *Pharmacy Technician*

Feb. 2021 – Feb. 2022; Feb. 2024 – Present

- Communicate with patients about their needs; dispense medications, ensuring dosage and instruction compliance.

ProPharma Group – Full Remote [Contract Position] | *Pharmacovigilance Specialist*

Mar. 2022 – Sep. 2022

- Crafted case narratives with Oracle Argus, adapting to evolving Standard Operating Procedures (SOPs).
- Adhered to established ICSR (Individual Case Safety Report) guidelines and MedDRA coding principles.