

## Professional Experience

**Bioinformatics Engineer I; Dana-Farber Cancer Institute, Boston, MA** **Jan. 2025 - Present**

- Directed the design and execution of **Google Cloud** workflows to generate a multi-terabyte, AI-ready dataset of pathology features and artifact/cell segmentations from 20,000 stained WSIs, and owned development of a Jupyter notebook for expert review.
- Oversee feature and content updates for the Dana-Farber Data Catalog (DFDC), coordinating monthly data releases, improving the ETL pipeline, and developing its modern CD pipeline, with **JavaScript** and **GitHub Actions**.
- Provide technical leadership for REDCap QC and data delivery pipelines in **Python** through code reviews, participation in design discussions, and contributions such as automated data delivery that saved hundreds of hours per study.
- Manage execution of preprocessing jobs for Cancer AI Alliance projects on DFCI **OMOP** data—validating partner-provided scripts (**Python, SQL, R**) on **Databricks** and **Snowflake**, communicating with collaborators, and handling cohorts in **OHDSI ATLAS**.
- Coordinated ten researchers' early access to Google AI Co-Scientist, setting up cloud data connections and collecting feedback.
- Represented DFCI at NCI's 3<sup>rd</sup> Annual Data Sharing Symposium by demoing DFDC and engaging with community leaders.

**Applied Technologies Co-Op, Automation Engineering; Moderna, Inc., Norwood, MA** **Jan.-Jun. 2024**

- Developed scripts and integrated tools & software to automate engineering lab tasks (electrical design, 3D printing queues, label generation, lean/5S) using **Python 3 (pyodbc, wx)**, **SQL**, **Git**, and **SmartSheet**.
- Directed the planning and development of benchtop demonstrations and supported the assembly, organization, and testing of major projects by applying control systems and mechanical engineering skills with **Productivity PLCs** and **SolidWorks CAD**.
- Leveraged enterprise LLMs as digital assistants to automate repetitive tasks, freeing time for problem solving.

**Computational Chemistry Co-Op; Novartis, AG, Cambridge, MA** **Jul.-Dec. 2022**

- Built an extension enabling direct transfer of molecular data from Schrödinger Maestro to internal processing pipelines, reducing reliance on costly 3rd-party software, using **Python**, **pip**, **PowerShell**, and **Git**.
- Formulated algorithms and data structures to compare terabytes of chemical data for a statistical analysis study with **Python**, **Bash**, and **JupyterHub**, requiring both computer systems and molecular structure knowledge.

**Software Engineering Co-Op; Intuit Inc., Remote** **Jun.-Dec. 2021**

- Delivered full stack production code for QuickBooks Live to facilitate reliable customer-to-expert interactions, both customer-facing with **JavaScript (React.js, Angular, Redux, Jest)** and administrative tools with **Java**.
- Applied engineering and teamwork strategies, such as version control with **Git**, agile development with **Jira**, integration/automation testing with **Docker** and **Cypress**, and real-user monitoring with **Splunk**.

## Technical Skills

Programming Languages/Frameworks	Engineering/Development Tools	Data and Life Science Methods
JavaScript/TypeScript ( <i>React.js, Node.js, Next.js</i> ), Python 3 ( <i>Pandas, NumPy, matplotlib, LLMs/Agents</i> ), R, Bash, SQL	Agent building, Google Cloud, AI-assisted development, Git, MySQL/MongoDB, CI/CD, Docker, software testing, Agile	Machine learning/AI, agent-assisted development, OMOP CDM, statistical testing, literature review and research

## Education And Training

**Northeastern University, Boston, MA**

- **Master of Science in Bioinformatics** (*College of Science*) GPA: **3.94/4** **August 2024**
- **Bachelor of Science in Computer Science and Biology** (*Khoury College of Computer Sciences*) **April 2023**  
Minor: **Mathematics**; Graduated *Summa Cum Laude*, GPA: **3.95/4**

**Other Training:** Google AI Agents Intensive (*Week-long course*); Google AI Agents Live + Labs Boston; Google Cloud Fundamentals: Core Infrastructure; Snowflake Multimodal Document Analysis Workshop

## Projects

**Professor, Google Cloud:** OAuth, Vertex AI, Firebase; Python 3: Agent Development Kit, Flask; TypeScript: React.js **March 2026**

- Web platform for creating college-level courses on anything a user wants, powered by AI. Agents build syllabi, generate lesson content, grade assignments, and serve as on-demand tutors. Already in use by peers to augment studying. (*Available on request*)

**An Ensemble Model to Classify Voter Propensity from Census Data, R; Python 3** **April 2024**

- Built Naive Bayes, logistic, and neural network classifiers to predict if a person voted from demographic data, and combined into an ensemble model. Written as an RMarkdown report detailing thinking and decisions. (*Available on request*)

## Teaching Experience

**Teaching Assistant; Khoury College of Computer Sciences, Northeastern University, Boston, MA**

- Held office hours, proctored exams, led lab sections, wrote assignment questions, and graded.
- CS3000 Algorithms and Data (Fall 2023); CS3800 Theory of Computation (Summer 2023); CS2510 Fundamentals of Computer Science 2 (Spring 2022); CS1800 Discrete Structures (Fall 2020)