

HARRIS BUBALO

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EDUCATION

Northeastern University, Boston MA *September 2024 – Present*
College of Science
Master of Science in Applied Mathematics with a Concentration in Data Science *Expected May 2026*

Northeastern University, Boston MA *September 2020 – May 2024*
Khoury College of Computer Sciences
Bachelor of Science in Computer Science and Mathematics *May 2024*
Honors: Dean's List **GPA:** 3.97/4.0

Relevant Coursework:

Machine Learning and Statistical Theory | Artificial Intelligence | Algorithms & Data | Object-Oriented Design | Computer Systems | Database Design | Discrete Structures | Probability and Statistics | Linear Algebra

TECHNICAL SKILLS

Languages: Python | JavaScript/TypeScript | Ruby | Java | C/C++ | MATLAB | SQL | Elixir | Dart
Software: Git | Scikit-Learn | Pytorch | TensorFlow | React | AWS | Google Cloud Platform | Apache Spark | Rails

EXPERIENCE

Northeastern University | Boston, MA *September 2024 – Present*
Algorithms & Data Structures Teaching Assistant

- Led labs and office hours to help students understand fundamental algorithms and computer science principles
- Wrote homework problems and programming assignments to further students' learning

Alignable | Boston, MA *May 2023 – December 2023*
Software Engineer Co-op, Data and Infrastructure

- Directed software engineering efforts for the site-wide "Local Business Person of the Year" contest within a tiger team, ensuring reliable interactions for over 300k users
- Spearheaded the migration from the legacy Ruby admin interface to React, utilizing Elasticsearch and new Elixir endpoints to halve data query times
- Designed and engineered a GitHub Actions flow which integrates with Slack to notify code authors of test failures, expediting issue resolution

Wayfair | Boston, MA *July 2022 – December 2022*
Software Engineer Co-op, Machine Learning Platforms

- Introduced new API endpoints to extend functionality of feature store platform, improving self-serviceability and reducing number of subsequent support tickets
- Led end-to-end implementation efforts for improved feature validation using Airflow, mitigating effects of data drift in response to a large-scale data migration
- Published feature serving client to an internal Python package, further standardizing ML development at Wayfair

MIT Beaver Works | Cambridge, MA *July 2019*
Program Alum

- Engaged in machine learning lectures given by Lincoln Lab researchers, particularly in context of medicine
- Utilized Python, pandas, and Scikit-learn to predict an NFL player's likelihood of developing CTE
- Presented findings at poster session at end of program, attended by hundreds of students and family members

PROJECTS

Molecule-Protein Binding Affinity Using Machine Learning Techniques *October 2024 – December 2024*

- Developed neural network models to predict molecule-protein binding affinity, using 294 million sample dataset
- Analyzed molecular building block synergies to address massive class imbalance and improve model interpretability

NoteSearch: A Personal Search Engine Using Vector Embeddings *September 2024 – October 2024*

- Converted academic PDFs into vector embeddings using the OpenAI Embeddings API and stored them in a Pinecone vector database for fast, similarity-based search
- Built a NodeJS CLI tool to compare user queries with stored notes using cosine similarity, enabling quick retrieval of relevant text from course materials and optimizing the study process

Oasis Distortion *September 2021 – December 2021*

- Created a robust VST3 distortion plugin using C++ and the JUCE framework, as part of the Oasis project acceleration club at Northeastern University
- Presented stable release to Oasis members through a demonstration of its music-making capabilities