TORIN KOVACH

Undergraduate Student · Carnegie Mellon University · School of Computer Science

@ tkovach@cs.cmu.edu +1 3092355528 in torink.me/linkedin torink.me/github

SUMMARY

Background includes both academic and industrial experience focused on applications of computer science and machine learning. Highly organized worker bringing articulate communication skills, relentless work ethic, and eagerness for growth and learning.

EXPERIENCE

Quantitative Strategy Intern

Akuna Capital

June 2023 – August 2023 Chicago, IL

- Built statistical models to optimize trade quality metrics when determining automatic re-insertion of traders' quotes into the market.
- Developed Python application for traders to efficiently manage options combination strategies, adopted by 100% of trading desks.

Bioinformatics & Machine Learning Intern

82 Venture Studio @ Alloy Therapeutics

August 2022 – May 2023 Waltham, MA

- Built from scratch software for automated identification/extraction of tabular and biological sequence data from ~2,500 patents.
- Developed machine learning pipeline for featurization, analysis, and prediction from antisense oligonucleotide (ASO) data.
- Developed SOTA predictive models for ASO hepato- and neuro-toxicity, using collected publicly available data.

Machine Learning Student Researcher

Auton Lab @ Carnegie Mellon University

February 2022 – August 2022 Pittsburgh, PA

- Developed novel fuzzy decision tree model with greater interpretability and near equivalent performance to random forests.
- Designed gradient-based methods using this model's differentiable loss to train feature transformations for automated feature engineering and dimensionality reduction.

Computational Biology Student Researcher

MetaboloGenomics Lab @ Carnegie Mellon University

September 2021 – Present Pittsburgh, PA

- Developed novel classification models and techniques outperforming current SOTA to predict gene interaction from protenomic data aiding in high-throughput antibiotic discovery.

Machine Learning & Software Engineering Intern

Impira, Inc.

June 2021 – August 2021 San Francisco, CA

- Redesigned sequence alignment algorithm merging multiple sources of text for a document, achieving improved accuracy and runtime.
- Implemented named-entity recognition (NER) model to detect addresses, dates, etc. in documents with >97% precision and recall.

EDUCATION

B.S. in Artificial Intelligence

Carnegie Mellon University

2020 - May 2024 GPA: 4.0

High School Diploma

Illinois Math and Science Academy

2017 - June 2020 GPA: 4.0

COURSEWORK

Computer Science

- Data Structures and Algorithms
- Computer Systems
- Artificial Intelligence
- Machine Learning
- Natural Language Processing
- Computational Genomics

Mathematics

- Statistics
- Linear Algebra
- 3D Calculus
- Probability Theory
- Discrete Mathematics

SKILLS

Technical Skills:

Python | PyTorch | scikit-learn | numpy | pandas | Biopython | Git | R | Linux | AWS | Node.js | HTML/CSS | LaTeX

Areas of Experience:

Machine Learning | Data Visualization | Statistical Analysis | Agile Methodologies

PROJECTS

Click on any project description to be directed to the corresponding site.

- Pipeline using SOTA language and grammar models for high-precision question generation from a given text.
- Web application using regression models to predict venous disease, avoiding need for exploratory surgery
- Interactive digital story that runs in web browser using HTML, CSS, JS