NEIL MALUR

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Current sophomore looking to pursue a computer science major in college. Currently conducting research in computational biology, bioinformatics, and machine learning with other uReinterests in business and math.

Education

Weston High School, Weston, MA   Anticipated Graduation June 2021
Awards: National Latin Exam Gold Medal (2), Honors Physics Department Award, Honors Geometry Department Award
Relevant Courses: AP Computer Science, AP World History, Intro to Business I, Introduction to Economics, Accounting I
Extracurriculars: Debate Team (captain, co-founder, varsity), Computer Science Team (president), DECA, Science Team, Math Team, Robotics Team
GPA: 4.0 (unweighted) · 4.52 (weighted)

Research Experience

MIT PRIMES Computer Science and Computational Biology   2018 - present
Conducting research in computational biology under the mentorship of a postdoctoral scholar.
- Member of and researcher at the Harvard-MIT Biomedical Cybernetics Laboratory
- Working on improving clinical trials accessibility for participants to possibly life saving treatments by structuring eligibility criteria to make it easier to access, understand, and perform patient matching on

Independent Student Researcher   2017 - present
Has completed and is working on a variety of independent research projects across fields and disciplines
- Predicting flu outbreaks using long short-term memory networks to help adequate preparation for outbreaks
- Analyzed student knowledge on politics to determine the benefits of lowering the national voting age
- Political sentiment analysis on tweets based on presidential support and using convolutional neural networks to help citizens be aware of biases in text and maintain politically neutral messages in a polarized world
  - Further developed in another project based on reddit data to predict the political sentiment of text, which won the Metrohacks III Most Entrepreneurial Hack Award
- Predicting city population and demographics based on satellite imagery using convolutional neural networks

Work Experience

Software Developer   March 2019 - present
Working at KTByte, a computer science education program for students, as a software developer
- Works on frontend website design and logistics and backend database structuring to aid teaching
- Implements twig for web design, SQL for database work, and git for streamlining workflow

Academic Achievements

United States of America Computing Olympiad Gold Competitor   January 2017 - present
- Top 1000 global competitors in USACO
- Uses standard workplace algorithms, such as Fenwick Trees, dynamic programming, and disjoint-sets

Skills

Computer Programming
Can implement unsupervised and supervised machine learning, including regression and clustering. Can write deep neural networks, including convolutional neural networks and recurrent neural networks. Implements conventional workplace algorithms, such as Fenwick trees, union find, dynamic programming, and Dijkstra's algorithm. Fluent in Java and Python, proficient in C++, HTML, Javascript, Typescript, CSS, R, and SQL. Familiar with Scala.

Volunteering

Middle School Robotics Team   2017 - 2018
Helped to mentor and guide students in the middle school robotics team, competing in the First Lego League. Organized the team with previous captaincy experience and taught members programming and building skills.