Noble Mushtak

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Education

Northeastern University–Khoury College of Computer Sciences *Boston, MA*
Candidate for Bachelor of Science in Computer Science and Maths *Sep. 2019 - Present, Expected May 2023*

- **GPA:** 4.0/4.0
- **Graduate Courses:** Topology I | Algebra I | Advanced Algorithms
- **Undergrad Courses:** Object-Oriented Design | Compilers | Theory of Computation | Logic and Computation Number Theory 2 | Real Analysis | Linear Algebra | Probability and Statistics

Marshwood High School *South Berwick, ME*
High School Degree *Sep. 2015 - Jun. 2019*

- **Ranking:** Class Valedictorian

Skills

Languages Python, C, C++, Java, HTML, CSS, JavaScript, Haskell, Rust, Bash, x86 Assembly
Systems Windows, Mac OS, Ubuntu, Debian, Android
Tools Git, LaTeX, Overleaf, Beamer, Google Apps Script, Jekyll, Django, Android Studio, Firebase, Qt5

Projects and Activities

Putnam Team *Sep. 2019 - Present*

- Practiced Putnam competition problems every week with other math students
- Tied for 189th place out of 4229 students in Putnam 2019 with a score of 39/120

Permit Log *Jan. 2017 - Dec. 2018*

- Created mobile app to help Maine learner's permit holders track hours of required driving practice
- Created Android app in team of three high school students using Android Studio, Java, and Firebase
- Won first place in Maine App Challenge 2017
- Maintained on Google Play Store from Feb. 2017 - Dec. 2018, had 6000 users at peak

Experience

Northeastern University *Boston, MA and Online*
Teaching Assistant *Jan. - Apr., Sep. 2020 - Present*

- Assisted for Fundamentals of CS I course about basic software design principles using DrRacket
- Guided students on how to design programs by answering questions in office hours and grading homeworks
- Since January 2021, led labs where students work on programming problems as a head TA

Northeastern Summer Math Research Program *Online*
Student Researcher *May - Jun. 2020*

- Worked with another undergraduate student under a graduate advisor to conduct mathematical research
- Researched fractional revival, a topic related to linear algebra, graph theory, and quantum mechanics
- Coded Sage program to search for graphs with fractional cospectrality, a property relating to eigendecomposition
- Wrote 45-minute slideshow in Beamer and 58-page paper in LaTeX explaining results, including several proofs

Spin Analytical *Kittery, ME*
Programming Intern *Jun. - Aug. 2017, 2018, 2019*

- Coded multiple Qt5 GUI programs for Raspberry Pi using C++ and Boot2Qt
- Ported and improved data analysis application calculating electrophoretic mobility of a macromolecule to Qt5
- Developed multithreaded Qt5 application interfacing with several hardware devices to control a custom instrument used in drug synthesis
- Wrote 20-page user manual for aforementioned multithreaded Qt5 application in LaTeX

Interests

Competitive Programming | Programming Languages Research | Social Justice | World History