Timothy Portuese

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EDUCATION

Carnegie Mellon University, Pittsburgh, PA
Selected Participant: Pre-College Program in Computational Biology, June-July 2026
Tufts University, Medford, MA
Participant: Pre-College Program in Engineering with Artificial Intelligence, July 2025
Harvard University, Cambridge, MA
Professional Certificate: Computer Science for Python Programming, April 2024
Current High School Cumulative GPA: 96.36/100. **Current High School Class Rank:** 8/234
Honors: All High School Coursework International Baccalaureate, Honors, or Advanced Placement

TECHNICAL SKILLS

Languages: C++, C, Java, Python, SQL, Node.JS, JavaScript, Typescript
Software and OS: Visual Studio Code, Visual Studio, Eclipse, Linux, Git, IntelliJ, Windows
Additional: Low-level knowledge of computers, Web Scraping, WebSockets, API Utilization, GCC/G++, CMake, Django, Fabric Modding, ImGUI, Image Processing, Linux Commands/Bash scripting, Open Source contributing, PDF Parsing, Reverse Engineering, ROM hacking, SDL, HTML, CSS, PowerBI, SCCM Programing, Athena

PROFESSIONAL EXPERIENCE

Volunteer, Programming for lovers, *programmingforlovers.com* *July 2026 - Present*
- Working with Carnegie Mellon University professor Phillip Compeau to assist with website redesign
- Helps educate and inform up-and-coming programmers

Information Technology Intern, Hudson Headwaters Health Network, Queensbury, NY, *hhhn.org* *July – August 2025*
- Worked with 3 different departments: Athena, Helpdesk, and IT

Programmer, NYSRRA-Nordic, *nyssranordic.org* *December 2024 – February 2026*
- Collaborated with *Underdogtiming.com* to assist NYSSRA Nordic with redesigning the website
- Coding from scratch a new Nordic race timing system - the old system was *barttiming.com*

Vacation Rental Website Designer, *sunsetbay-ny.com* *January 2025 - Present*
- Marketing profile for various short-term rental properties

PROJECT EXPERIENCE

International Baccalaureate CAS Project *November 2025 - May 2026*
- *https://www.instagram.com/sat_math_simplified/ & https://satmathsimplified.timportuese.com/*
  - Created a SAT practice website aimed at helping people do better at the math section of the SAT
  - Created an Instagram account with practice videos of the hardest math SAT problems
  - Instagram was impactful enough to gain over 1,000 followers and over 750,000 views in a brief time
  - Emailed every U.S. guidance counselor to share free SAT resources with students with positive results

International Baccalaureate Extended Essay Research Project *October 2025 - Present*
- A Comparative Analysis of GIL-Enabled and Free-Threaded Performance Across asyncio, multithreading, and multiprocessing in Python 3.14
  - To what extent does removing the Global Interpreter Lock (GIL) in Python 3.14 impact the performance scaling of CPU versus I/O bound tasks when comparing free-threaded multithreading, asyncio, and multiprocessing in both?

Nordic Ski Result Database, *Web Development* | Independent Project *September 2024 - February 2026*
- Created a website that manages comprehensive records of Nordic skiers all over New York at *mippymagic.com*
- Added features such as accounts, claiming skiers, and team management for coaches
- Ranked league skiers based on dynamic season race performance
- Analyzed a large data set of Nordic Skiers and race results

PROFESSIONAL INTERESTS & AFFLIATIIONS

- President, VEX Robotics *2023 - Present*
- Contributing to open-source projects on GitHub
- Listening to Programming Throwdown podcasts
- Reading the MIT Technology Review
- Participant in GitHub's Hacktoberfest

- Reading the Association for Computing Machinery's ACM TechNews Magazine
- Tinkering with Computer Hardware and assembling computers
- Coordinating with the local high school district's IT director to identify cybersecurity gaps

EMPLOYMENT & PERSONAL INTERESTS

- *Lifeguard,* Queensbury Recreation, Queensbury, NY *July 2025 - Present*
- *Lifeguard,* Saratoga Regional YMCA (SRYMCA), Glens Falls and Saratoga Branches, NY *July 2025 - Present*
- Hiking - 42/46 high peaks completed towards being an Adirondack 46er
- Cross Country Running, Nordic Skiing, Track & Field