

NEIL KAPUR

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EDUCATION

Amherst College - B.A. Computer Science and Economics

Expected Graduation: May 2025

GPA: 3.9

Relevant Coursework: Data Structures, Algorithms, Computer Systems, Parallel Computing, Networks, Macroeconomics, Econometrics, Introduction to Statistics (using **R**), and Multivariable Calculus

Organizations: Amherst Debate Society, Out in STEM (oSTEM), Amherst Student Newspaper, and Bridge Club

EXPERIENCE

Amherst College

Summer Undergraduate Research Fellow for Professor Lillian Pentecost

June 2023 - August 2023

- Developed **Python** scripts to apply compression techniques (quantization and pruning) on nanoGPT large language model, reducing model size by 75 percent with minimal loss in accuracy
- Injected bit flips into model using Ares Fault Injection framework to test model fault tolerance
- Examined scholarly works on emerging embedded non-volatile memory technologies, neural network compression, and fundamentals of machine learning
- Selected to present research poster at 2023 IEEE International Symposium on Workload Characterization

Student IT Help Desk Specialist

July 2022 - Present

- Provides technical support and troubleshooting assistance to Amherst College community members through phone, email, and in-person support for laptops (Windows and macOS) and mobile devices
- Manages and documents technical issues through ticketing system, routing tickets to appropriate departments for prompt resolution
- Carries out IT tasks, including hardware installation, inventory management, and computer imaging

Computer Systems Teaching Assistant

February 2023 - May 2023

- Led weekly evening 2 hour help sessions to assist students in Computer Systems course (50+ enrolled) with comprehension of course concepts and debugging of projects in **C** and **NASM assembly**
- Communicated with professor on weekly basis about student progress and common questions

Academic Web Design Intern

January 2023

- Utilized **CSS** and **Bootstrap** to modernize academic website for mathematics professor
 - Re-designed website's user interface and navigation bar, resulting in a more user-friendly experience
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PROJECTS

- **Chapel School IT Reservation Software:** Created web application in **HTML, CSS, PHP, and mySQL** that allows teachers to reserve high school's IT equipment and labs
 - **Quadratics Quiz:** In **Java**, created math game with simple GUI interface that quizzes users on their knowledge of quadratic equations (e.g. finding roots, vertex, concavity)
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SKILLS

Technical Skills: Java, Python, HTML, CSS, PHP, C, R, and Git

Spoken Languages: English and Portuguese

Other Skills: Communication, Collaboration, Problem-solving, Detail-oriented, and Information Technology