Nikola V. Maruszewski

Student and Researcher

Profile

Computer science major with a passion for learning. I plan to complete a masters degree through the BS/MS program at Northwestern University. Currently performing quantum systems research with Prof. Nikos Hardavellas in the PARAG@N Lab. I also have interests in computer engineering, embedded devices, machine learning, and compilers.

Work experience

Present
↑
Jun 2023

Summer Undergraduate Researcher
PARAG@N Lab

Funded by an NSF REU and a grant from the NU CS department, I was able to perform cutting-edge research on quantum computing.

- Designed and programmed a quantum compiler to optimize quantum circuits for emerging quantum computer topologies.
- Created a development framework and tools for further quantum systems research.
- Student leader of the project while an undergraduate student.

Aug 2023
↑
Jun 2023

Peer Mentor
Northwestern University

Acted as an undergraduate peer mentor for CS 321 Programming Languages.

- Held several office hours each week.
- Answered questions, both synchronously in office hours each week and asynchronously on a Piazza message board.

Education

Present
↑
Sep 2022

Bachelor of Science, Computer Science
Northwestern University

Score: 4.00/4.00

Relevant Coursework:
- CS 322: Compiler Construction
- CS 349: Machine Learning
- CS 449: Deep Learning

Jun 2022
↑
Aug 2018

High School Diploma
Roycemore School

Score: 4.80/4.00

Relevant Coursework:
- AP Physics C: Mechanics and E&M
- CS 213: Intro to Computer Systems (Dual Enrollment @ NU)
- MATH 240: Linear Algebra (Dual Enrollment @ NU)

Contact

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Skills

Programming Languages:
- Python
- C and C++
- JavaScript
- Java
- MATLAB
- Shell Script

Machine Learning:
- PyTorch
- NumPy
- PolaRS
- Scikit-learn

Tools:
- Docker
- Containerd
- Taskfile
- Make
- Git
- Linux

Volunteering

Jun 2022
↑
Aug 2021

Volunteer
Distributed Proofreaders

Proofread books for Project Gutenberg through Distributed Proofreaders.
- Gained valuable volunteering experience.
- Provided proofread books for public domain usage.

Awards and Honors

2022.06.03

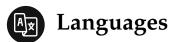### Rebecca Ashley Thatcher Award for Overall Academic Achievement
Roycemore School

Awarded to the best-performing student in the Roycemore Senior class.

2022.05.13

Headmaster's Award
Roycemore School

Awarded to the Senior best representing Roycemore's Core Values.

Languages

English	Native Speaker
Serbian	Native Speaker
French	Conversational

Interests

Embedded Devices:
- ESP-32
- Pololu Wixel

Computer Engineering:
- Hardware Design
- Architectures

Programming Languages:
- Interpreter Design
- Compiler Construction
- Code Analysis and Transformation

Machine Learning:
- Convolutional Neural Networks
- Reinforcement Learning
- Financial Prediction