Nikola V. Maruszewski

📞 (847) 644-3542 | 🌐 www.nikola.cx | ✉ me@nikola.cx | ⭘ Github | 🔗 Linkedin | 🐘 Mastodon

EDUCATION

Northwestern University   Evanston, IL
Bachelor/Master of Science, Computer Science/Computer Engineering   *Sep 2022 – Present*
- **Expected Graduation:** June 2025
- **Score:** 4.00/4.00
- **Relevant Coursework:** CS 322: Compiler Construction; CS 349: Machine Learning; CS 449: Deep Learning

Roycemore School   Evanston, IL
High School Diploma   *Aug 2018 – Jun 2022*
- **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)

EXPERIENCE

Summer Undergraduate Researcher   Jun 2023 – Present
PARAG@N Lab   *Evanston, IL*
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.

Peer Mentor   Jun 2023 – Aug 2023
Northwestern University   *Evanston, IL*
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.

AWARDS AND HONORS

Rebecca Ashley Thatcher Award for Overall Academic Achievement | *Roycemore School*   2022.06.03
    Awarded to the best-performing student in the Roycemore Senior class.

Headmaster's Award | *Roycemore School*   2022.05.13
    Awarded to the Senior best representing Roycemore's Core Values.

PROJECTS

Northwestern Fintech Club | *C++, Python, CMake, Machine Learning, Redis, libcurl, libuv*   Jun 2023 – Present
- Created a orderbook system to pull orderbooks from exchanges using libcurl and libuv, then push them into a Redis instance for consumption by ML prediction clients.
- Organized linting and build systems for multiple projects, in C++ and Python.
- Helped create a devlopment architecture for the coming years, with a focus on reducing technical debt.

MediumAnt | *C, Polulu Wixel, Polulu Micro Maestro, Servos*   Jan 2022 – Feb 2022
- Six-legged ant-like robot created in collaboration with Dr. Shai Revzen at the BIRDS Lab at the University of Michigan.
- Built from laser-cut styrofoam; moves using 360° servos controlled by a Polulu Micro Maestro.
- Movement control accomplished by two wirelessly communicating Polulu Wixels, one on the robot to control motors and the other connected to a PC to recieve commands.

Self-Balancing Robot | *C++, Arduino, MPU6050, L298N*   Jan 2020 – Jul 2021
- Two wheeled self-balancing robot using a MPU6050 gyroscope and L298N motor controller.
- All code is written in C++; the motors are PID controlled using the angle of the robot reported by the gyroscope.
- The bulk of the work was done from 2020.01.06 to 2020.01.24, with additional work during July 2021.

TECHNICAL SKILLS

Programming Languages: Python, C and C++, JavaScript, Java, MATLAB, Shell Script
Machine Learning: PyTorch, NumPy, PolaRS, Scikit-learn
Tools: Docker, Containerd, Taskfile, Make, CMake, Ruff and Flake8, Mypy, Poetry, Git, Github Actions, Linux