

Filip Raczkowski

EngineeringX LLC
engineeringxllc.com/contact

EDUCATION

Brooklyn Technical High School, Brooklyn, NY - Electrical Engineering, June 2026

ENGINEERING EXPERIENCE

Freelance Mechanical Design Engineer – Independent

August 2026 - Present

- Designed mechanical components, assemblies, mechanisms, and prototypes in **Autodesk Inventor** and **Fusion 360**, including **technical drawings** and manufacturing documentation with emphasis on **DFM**
- Evaluated mechanical feasibility, **manufacturability**, **tolerances**, and design constraints to identify issues before prototyping or manufacturing

FRC Robotics - Lead Mechanical Engineer

October 2023 - June 2026

- Designed and manufactured mechanical subsystems, **jigs**, and **CNC workholding fixtures** for the team's 2024–2026 competition robots, generating **CAM toolpaths**, applying **GD&T** and **mechanical tolerancing**, and training team members in CAD and **CNC machining**
- Designed, fabricated, and tested the robot climbing subsystem for the 2025 and 2026 seasons while mentoring underclassmen through the design and manufacturing process
- Mentored an FTC team in mechanical design and CAD using **Onshape**, guiding students through the design and manufacturing process
- Led mechanical integration of the 2026 competition robot, coordinating interfaces between all mechanical subsystems

Protomatica - Engineering Intern

April 2025 - June 2025

- Designed, built, and tested a projection-based system for aligning digital floor plans onto physical surfaces as part of a three-person engineering team

PERSONAL PROJECTS

Automated Chess Board

December 2022 - July 2024

- Designed and built a magnetic **CoreXY mechanism** to move chess pieces across the board, integrating mechanical and electrical systems
- Developed piece-detection circuits and software integration with Lichess, enabling online games to be played on the physical board

CERTIFICATIONS

- Autodesk Inventor 2026 Certified User

SKILLS

- **Fusion 360**, **Autodesk Inventor (Certified)**, **GD&T**, **Mechanical Tolerancing**, **CNC Machining**, **CAM**, **Jigs & Fixtures**, **Onshape**, **Python**, **Prototyping**, **Circuit Design**, **Polish (Native)**