

Paul M. Khoury

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EDUCATION

Rensselaer Polytechnic Institute - Troy, NY

Aug. 2022 - May 2026

- Mechanical Engineering Major; Cognitive Science Minor
- 3.72 Cumulative GPA; *Magna Cum Laude*; Dean's List; Founders Award of Excellence Honoree

WORK EXPERIENCE

Limbless Solutions Inc. - Orlando, FL

May 2025 - Aug. 2025

R&D Intern and NSF-backed REU Scholar

- Designed and prototyped a wearable vibrotactile array to provide **intuitive sensory feedback** for **pediatric prosthetic arm** users during functional tasks, conveying an **artificial sense of touch**
- Established protocol to test patient localization of vibrotactile stimuli; secured **IRB** approval for **human subject research**
- Co-authored conference paper; selected for undergraduate poster presentation for the 2025 BMES Annual Meeting

Medline, NAMIC Division - Glens Falls, NY

Aug. 2024 - Dec. 2024

Co-op Engineer, Manufacturing

- Designed and built a Cartesian **6-axis robot** for precision fluid dispensing in adhesive bonding processes
- Undertook **corrective and preventive action** (CAPA) to significantly reduce particulate contamination in cleanrooms to meet stringent **medical device regulatory standards** in the US, EU, and Japan
- Enhanced **workplace safety** on production floor with custom dividers, fixtures, and light curtains around machinery
- Integrated actuator components into a fully automated production line and programmed them using **PLC ladder logic**
- Reverse-engineered aging machinery and produced detailed part designs, adhering to internal **document** standards
- Resolved **wave damping** issue in blood pressure monitoring product by designing a custom valve

RPI Lab for Accelerated Computing in Engineering and Science - Troy, NY

Jan. 2024 - Jan. 2025

Undergraduate Researcher

- Conducted **finite element modeling** of pelvic fractures to evaluate efficacy of **orthopaedic surgical fixtures**
- Collaborated with a physician to improve upon existing **biomechanical** models

NYS Institute for Basic Research - Staten Island, NY

May 2023 - Aug. 2023

Laboratory Summer Intern

- **Programmed Arduino** actuators to automate lab assays thereby **expediting experimental workflows**
- Investigated mechanisms of aberrant neurodevelopment in response to lead and PFOA exposure
- Employed **advanced imaging techniques** to study effects of psychoactive compound Muscimol on animal models

Zalpha (formerly 'Invest-ed') - New York, NY

Nov. 2021 - Aug. 2023

Product Team Lead

- Contributed to the early development of an ed-tech **startup** that delivered an innovative paper trading **mobile app**
- Spearheaded **Product** and **UX design**, collaborating with developers and stakeholders to refine the app's interface

PROJECTS

"Thread the Loop" Surgery Skill with Robot arm

Sept. 2025 -Present

- Implemented inverse-kinematics-based control of a 6-DOF robotic arm for maneuvers relevant to laparoscopic surgery.

EMG Classification using Machine Learning

Jan. 2025 - May 2025

- Developed a classification model to infer gestures based on noisy sEMG signals collected from the wrist/forearm.

Historical Facade Restoration

Sept. 2024 - May 2025

- Digitally reconstructed and manufactured decorative facade elements for a fire-damaged historic residence.

LEADERSHIP & VOLUNTEERING

Former RPI Undergraduate Council President; RPI Biomedical Engineering Society Project Team; Volunteer Dispatcher (BRAVO Volunteer Ambulance, Brooklyn, NY); Lector at RPI University Chapel + Cultural Center

SKILLS & CERTIFICATIONS

Siemens NX, AutoCAD Certified User; SOLIDWORKS CAD Design Associate (CSWA); Six Sigma Green Belt; Matlab and Simulink; PLC Programming, LTSpice; Microsoft Excel; Office 365 Suite; Abaqus FEA; HyperMesh CFD; Machine Learning Engineering with Python; Conversational proficiency in Polish, Russian; CITI Research & Ethics Training