Andrii Iarmolenko

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Portfolio: andrii-iarmolenko.github.io/

Fourth-year mechanical engineering student with strong knowledge and skills in AI/ML, finite element analysis, fluid mechanics, heat transfer, and materials science, supported by hands-on experience in CAD, MATLAB, and Arduino-based systems. Seeking a mechanical engineering internship.

EDUCATION

The City College of New York (CCNY) – New York, NY

Bachelor of Engineering, Mechanical Engineering (GPA: 3.7/ 4.0) ***Expected December 2026***

Relevant Coursework: Heat Transfer, Thermodynamics, Fluid Mechanics, Computer-Aided Design, Materials Science, Finite Element Analysis

Borough of Manhattan Community College (BMCC) – New York, NY

Associate of Engineering Science (GPA: 4.0 / 4.0) ***September 2022 – August 2024***

TECHNICAL SKILLS

Software & Tools: SolidWorks, Fusion 360, AutoCAD, Zemax, MATLAB, LabVIEW, Python (TensorFlow), C++, Microsoft Office

Engineering Skills: 3D CAD modeling, engineering analysis, experimental design, data acquisition and processing, basic finite element analysis (FEA) concepts, heat transfer and thermal analysis (coursework), optics and sensor systems

Languages: Ukrainian (fluent)

EXPERIENCE

Research Assistant – BIOWEAR Lab, CCNY – New York, NY ***October 2025 – Present***

- Develop Arduino-controlled sensing for a wearable exoskeleton, measuring resistance and force at multiple points.
- Design sensor interconnections and multiplexer layouts to interface many sensors with one microcontroller.
- Model and refine sensor and electronics enclosures in 3D CAD for protection, ergonomics, and assembly.
- Support data acquisition, basic signal processing, and documentation of tests and results.

Research Student – MobilizeGreen Fellowship, CCNY – New York, NY ***June 2025 – August 2025***

- Simulated and optimized LiDAR optical systems using Zemax and MATLAB.
- Collected and analyzed experimental data to select optimal optical configurations.
- Compared simulated and measured results and recommended design adjustments.
- Presented methods, results, and trade-offs in a final research presentation.

Research Student – NSF REU Program, CCNY – New York, NY ***June 2024 – May 2025***

- Improved LiDAR accuracy using Varioptic liquid lenses and a two-lens system.
- Optimized LabVIEW routines for real-time data acquisition and control.
- Enhanced MATLAB signal-processing scripts for detecting small, fast-moving targets.
- Produced technical reports and weekly presentations for a multidisciplinary team.

Plumber Mechanic – Real Plumbing Corp. – New York, NY ***February 2015 – June 2018***

- Promoted from apprentice to mechanic within 12 months.
- Installed and serviced plumbing systems in commercial and residential buildings to code.
- Diagnosed and resolved flow, pressure, and temperature issues in piping systems.
- Coordinated with general contractors, HVAC teams, and electricians to keep projects on schedule.

CONFERENCE PRESENTATIONS

Emerging Researchers National Conference ***April 2025***

Presented research on improving LiDAR precision using Varioptic liquid lenses and a two-lens system, highlighting modeling, experimental validation, and data analysis.

Joint Mathematics Meeting ***January 2024***

Presented research on using the Gini Coefficient to rank AI models, including methodology, statistical analysis, and interpretation of ranking metrics.

Member: American Society of Mechanical Engineers (ASME), Tau Beta Pi