RYAN KIACHIAN

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EDUCATION

Carnegie Mellon, School of Mechanical Engineering, Pittsburgh, PA **Expected May 2026**
Masters of Engineering, Mechanical Engineering **GPA=4.0**

Relevant Courses: *AI & ML for Engineers, Mechatronics, Additive Manufacturing, Finite Element Analysis, Application of AI & ML for Manufacturing, Welding Engineering, Engineering Optimization, Intro to Printed Circuit Boards*

Cornell University, Sibley School of Mechanical and Aerospace Engineering, Ithaca, NY **May 2025**
Bachelor of Science, Mechanical Engineering **GPA= 3.64**

Relevant Courses: *Propulsion Aircraft and Rockets, GD&T, Automotive Eng, Heat Transfer, Electric Drive Vehicle Eng, Materials Processing and Manufacturing, Thermodynamics, System Dynamics, Fluid Dynamics, Mechatronics*

TECHNICAL EXPERIENCE

AI & ML Methods for Manufacturing, Carnegie Mellon University **Spring 2025**
- Trained YOLO-based computer vision models in PyTorch for real-time defect detection in 3D printed parts
- Built an agentic LLM controller enabling autonomous monitoring, decision making, and dynamic control

Mechatronics, Carnegie Mellon University **Fall 2025**
- Designed and built an educational magnetic levitation system integrating electronics, CAD, and real-time control
- Implemented open and closed loop control with sensor feedback, live data display, and user-tunable gains

Northrop Grumman, El Dorado Hills, CA **Summer 2025**
- Presented technical findings to customers during a Critical Design Review and Technical Interchange Meetings
- Enhanced Simulink model by implementing multiple closed-loop speed control methods, integrating an AC-to-DC conversion stage, and writing MATLAB scripts to output key performance data
- Authored a technical report analyzing critical load cases & validating model's results against physical test data
- Engineered a test stand with transducers, flow meters, and a pump to validate pressure drop and flow rate calculations, leading to critical design changes
- Performed a dissimilar metals analysis for all system interfaces & recommended treatments to mitigate corrosion
- Leveraged a Fortus 400 and Bambu printers to fabricate a full-scale prototype

Fluids & Heat Transfer Lab, Cornell University **Fall 2024**
- Operated wind tunnels, load cells, pressure transducers, anemometers, strain gauges, thermocouples, and more to measure key metrics like spark ignition engine performance

Northrop Grumman, El Dorado Hills, CA **Summer 2024**
- Developed a spreadsheet to calculate weight, energy consumption, and heat dissipation for a generator system
- Defined objectives, established analytical methods, and determined necessary heat-dissipation for cooling system

System Dynamics Lab, Cornell University **Fall 2023**
- Designed open and closed loop feedback controllers to meet performance specifications on dynamic response

Alef Aeronautics, Santa Clara, CA **Summer 2023**
- Used CAD to design a test stand for speed control and flying
- Automated data acquisition, monitored real-time sensor outputs, and analyzed experimental data using LabVIEW

Mechanical Synthesis Lab, Cornell University **Spring 2023**
- Led a small team to design and manufacture a water pump using CAD software, mills, lathes, and laser cutters

SKILLS

Programs: Coding (Python, Matlab, C++), Machine Learning and AI tools, Simulink, CAD (Fusion 360, SOLIDWORKS, Siemens NX), Additive Manufacturing (Metal and Polymer), ANSYS FEA, GD&T, Mechatronics

LEADERSHIP EXPERIENCE

Cornell Men's Basketball **August 2021-2025**
NCAA Division-1 Student-Athlete
- Established strong work ethic to balance 30+ hour weekly training and travel, while maintaining full course load
- Effectively created challenging, yet attainable goals as well as a strategy on how to achieve them