

Ryan J. Mattana

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U.S. Citizen; Belgian Citizen | Permanent Address: 19 Terrace Place, Pelham, NY 10803

EDUCATION

Rice University

Houston, TX

Bachelor of Science in Mechanical Engineering, specialization in aerospace

Expected Graduation May 2027

– Honors: Rice Best Aerospace Technology Award

GPA: 3.63 / 4.00

– Other Relevant Coursework: Aerospace Propulsion; Orbital Mechanics; Statistics; Financial Accounting

WORK & LEADERSHIP EXPERIENCE

Rice Flight Club (aiaa.rice.edu)

Houston, TX

Aerodynamics Lead, American Institute for Aeronautics and Astronautics (AIAA)

Sep 2023 – Present

- Developed a Python MDO tool leveraging automatic differentiation to size eVTOL aircraft within stability bounds for SAE advanced competition; $\sim 3,600\times$ speedup (99.97% runtime reduction compared to last year's team).
- Delivered aerodynamic performance reports (L/D, $C_m-\alpha$, static margin) that informed team design decisions; modeled updated configurations in SolidWorks for integration with propulsion and structures teams.
- Created a scoring function to maximize lift/drag ratio, minimize stall speed, and reduce sink rate; used ANSYS Fluent for CFD analysis of aerodynamic effects of external payload and propeller downwash in low Reynolds environment.
- Collaborated with manufacturing team to prototype and fabricate carbon-fiber and resin structures; implemented laser-cut and 3D-printed components that reduced total airframe weight and accelerated assembly time.
- Student Leader for the AIAA Regional Conference, a 250 person conference with keynote speakers

Undergraduate Research Intern (soe.rutgers.edu)

New Brunswick, NJ

Under guidance of Professor Stephen Tse, Rutgers University

Jun 2025 – Aug 2025

- Designed and 3D-printed optical-mount hardware to reconfigure a lab 3D printer for U.S. Army-sponsored femtosecond-laser ablation research; enabled reliable TiO₂ nanoparticle synthesis testbed and reduced swapover time.
- Built a lightweight Python/HTML interface to plan/run experiments; migrated data pipeline from pandas to polars, lowering runtime by 30% and automating file conversion for faster analysis.

Pfizer (pfizer.com)

New York, NY

Business Information Management Intern

Jun 2024 – Aug 2024

- Helped audit \$21 million to migrate confidential clinical trial data into Pfizer's internal database from acquisitions; kept current and accurate key data metrics for actual and budgeted numbers in the department for decision makers.
- Streamlined companywide SOPs by reducing word count by 40%, thereby accelerating the incorporation of procedures for business teams; archived clinical trial data to support future research and inquiries.
- Used Excel to automate tracking of key scientists' clearances to ensure integrity of intellectual property.

Private Pilot's License

Geneva, Switzerland

Single Engine Piston, Visual Flight Rules (VFR)

Issued Feb 2021

- Accumulated 65 hours of flight time; 20 hours as Pilot in Command in a Piper PA-28; ensured efficient ATC radio communication, calculated pre-flight metrics (weight and balance); completed weather briefings (METAR/TAF).
- Learned the hydraulic/surface/electrical systems and completed emergency training for mechanical failures; one of the youngest pilot graduates in flight school history; filed flight plans.

Rice Oshman Engineering Design Kitchen (oedk.rice.edu)

Houston, TX

Lab Technician

Sep 2025 – Present

- Acquired hands-on expertise with advanced fabrication equipment including laser cutters, 3D printers (ABS & PLA), CNC milling, and waterjet systems, alongside proficiency in traditional machining tools and digital embroidery.
- Facilitated everyday use of the laboratory including classes, senior design projects and extracurricular clubs.

SKILLS, ACTIVITIES & INTERESTS

Technical Skills: MATLAB, SolidWorks, Python, ANSYS Fluent, Microsoft Office/Excel, Simulink, GitHub, LaTeX, Arduino, FINRA SIE, Knowledge of ASME Standards, GD&T

Languages: Native in English and French

Activities & Leadership: President of Rice Boxing Club; Sid Richardson and Lovett College Co-Advisor; Will Rice Bike Team; Rice Undergraduate Investment Fund; Avgas Research Intern for the Baker Institute

Interests: Marathon Running; Ironman Contestant; Top 500 Overwatch Player