



# Senior Guidance, Navigation and Controls (GNC) Engineer

## ABOUT MightyFly

Do you want to change the world? MightyFly is creating the future of logistics with autonomous cargo aircraft. Our mission is to provide rapid and efficient access to goods. Join the MightyFly team and help us change the world.

MightyFly is a leader in the logistics revolution. Existing logistics infrastructure is time and resource intensive. We are building the future of logistics with autonomous eVTOL cargo aircraft with a cargo capacity of 100 to 500 pounds and a range of 600 miles. Our logistics service aims to streamline business to business expedited delivery, providing door to door deliveries to our target customers in less time and lower cost than conventional logistics. MightyFly's just-in-time logistics using unmanned aircraft will fundamentally transform how goods move around the globe.

## ABOUT THE ROLE

We are seeking a highly skilled and experienced GNC Engineer to join our team and contribute to the development of one of the world's largest autonomous cargo aircraft. As a GNC engineer at MightyFly, you will own the design, implementation, and testing of the core flight control algorithms on board our aircraft. Your responsibilities extend from building and applying high-fidelity models of our aircraft, to developing GNC algorithms in the autopilot, to ensuring the robustness and performance throughout the flight envelope. You will work closely with cross disciplinary team members during the entire aircraft development cycle which includes aircraft configuration design and into flight testing to ensure the seamless integration and testing of your developed algorithms to achieve successful control and operation of the aircraft.

## WHAT YOU'LL DO

- Design, implement, and test guidance, navigation and control algorithms on board MightyFly's autonomous cargo aircraft.
- Develop linear and non-linear simulations of our aircraft's entire flight envelope based on aerodynamic models and physics-based modeling techniques.
- Apply proven analysis and model-based design techniques to optimize aircraft control laws for desired stability and performance characteristics.
- Work with the software team to create tools and tests to demonstrate the performance of your designs using both Monte Carlo simulations and regression testing.
- Develop contingency strategies to ensure safe and predictable system response during off-nominal flight conditions.
- Provide input to the flight test team regarding ground and flight test points/cards required to validate GNC performance.



- Participate in flight testing and analyze flight data to investigate potential issues and identify opportunities for improved performance.
- Work with a multidisciplinary team to evaluate, select, and integrate GNC hardware (i.e. sensors, actuators, and processors) to meet performance requirements as well as participate in design of novel aircraft development..
- Document designs and tests for the purpose of FAA certification.

## WHAT YOU'LL BRING

- General
  - A personal drive to build systems from the ground up
  - A strong interest for tackling and solving complex problems
  - Self-directed with the ability to work and thrive in a dynamic and fast-paced environment
- Technical
  - Bachelor's degree in Aerospace, Mechanical, Electrical, or Computer Engineering, or a related field.
  - 3+ years experience designing and developing GNC systems for aircraft
  - Deep expertise in one or more of the following areas: estimation, dynamic modeling of complex systems, advanced linear control analysis, or optimal control with uncertainty
  - Excellent applied mathematical fundamentals in linear algebra, statistics, and probability
  - Proficiency with GNC simulation tools such as MATLAB, Simulink and related toolboxes
  - Experience developing embedded control systems, estimators, or simulations from scratch and experience testing these systems on real-world hardware
  - A balanced approach to theoretical, simulation, and hardware/flight test analysis in order to demonstrate your designs
  - Experience working on autonomous vehicle software
- Planning & Partnering
  - Ability to plan and deliver on time
  - Excellent technical communication skills
  - Organizational skills
- Nice to have
  - Software engineering skills (C++, C, Python, Git version control)
  - Familiarity with aviation certification standards & processes
  - Experience with large UAVs or VTOL aircraft

## WHAT ELSE YOU NEED TO KNOW

MightyFly is only able to sponsor TN visas and H1B visa transfers for this position at the present time.

**Equal opportunity:**



MightyFly is an equal opportunity employer and prohibits discrimination and harassment of any type. We do not discriminate based upon race, religion, color, national origin, sex (including pregnancy, childbirth, reproductive health decisions, or related medical conditions), sexual orientation, gender identity, gender expression, age, status as a protected veteran, status as an individual with a disability, genetic information, political views or activity, or other applicable legally protected characteristics.

**Diversity:**

MightyFly values diversity and welcomes applications from those who are traditionally underrepresented in the tech industry. We are an international team, led by a female CEO.

**Job Location:**

- Bay Area.
- Remote work might be possible, but not preferred, on a case-by-case basis.

**Culture:**

- We are aviation and aerospace enthusiasts who believe the sky is *not* the limit.
- **Teamwork:** We believe that to achieve great results we need great teamwork.
- **Working hard:** Building reliable aviation and logistics products is really hard but also exciting, challenging, and rewarding.
- **Having fun:** We believe that hard work needs to be coupled with fun. We love hanging out beyond the workday, hosting team dinners, and organizing fun activities. We love the outdoors and outdoor sports. And of course, we love flying.
- **Celebrating wins large and small.**
- **Creativity.** We love and encourage creativity. The best ideas emerge when our working environment fosters out-of-the-box thinking.
- **Humility:** Let's leave the ego at the door so we can work together to create meaningful solutions.
- **Equity, inclusivity, and respect** for the diversity of life and work experiences that each individual brings to the team.
- **Transparency, honesty, and integrity.**

**Benefits:**

- Competitive health, dental, and vision insurance.
- Unlimited paid time off.
- Commuter benefits.
- Stock option plan.
- Working on cutting-edge products to transform our future.
- Working with a diverse and highly skilled team.
- Shaping and defining company culture and values.

**APPLY**

Email a copy of your resume with a brief introduction about yourself to [careers@mightyfly.com](mailto:careers@mightyfly.com)

