

## GNC Engineer Temporary

### Description

SR. GNC ENGINEER (STARLINK) - TEMPORARY SpaceX is looking for engineers with backgrounds in orbital mechanics, control theory, state estimation, spacecraft systems design, optimization, and software development to join the Starlink guidance, navigation, and control (GNC) team. Come help us write the autopilot algorithms for thousands of satellites (the world's largest constellation!) and more than two million user terminals, enabling access to high-speed broadband internet in all corners of the world. There are several sub-teams within Starlink GNC with different focus areas. Applicants will interview for specific teams based on hiring needs and qualifications. Specific team responsibilities might include: Constellation design and optimization Fleet management and satellite orbit transfer automation, including all supporting software infrastructure Constellation-level and network-level analysis of both existing and proposed satellite systems Satellite collision avoidance Satellite attitude determination and control Satellite orbit control, such as low thrust trajectory optimization and station-keeping Precision state estimation and control of various network payloads (RF antennas, laser inter-satellite links) **RESPONSIBILITIES** Develop highly reliable and performant GNC algorithms, simulations, tools, services, and dashboards using C++ or Python; Starlink GNC Engineers write actual production code, not just prototypes for transcription by another team Participate in architecture, design, and code reviews Bulk data analysis to review performance data from various elements of the Starlink constellation and network Write high quality technical documentation of programs, algorithms, or analysis Support your relevant on-call operations rotation, commanding satellites or reviewing network data to keep our network continuously operating at peak performance **POSITION DETAILS:** This is a temporary position with SpaceX, for the length of time as stated, and is subject to change with minimal notice as business needs dictate. **LENGTH OF POSITION:** 3 months **LOCATION:** Remote **BASIC QUALIFICATIONS** Bachelor's degree in computer science, aerospace, physics or an engineering discipline and 5+ years of professional experience in GNC Software development experience in either C++ or Python **PREFERRED SKILLS AND EXPERIENCE** Some preferred skills and experience depend on the specific team within Starlink GNC. Master's degree or PHD in an engineering discipline or physics Developed, debugged and deployed software that has been used in real world applications/projects Creative approach to problem solving, exceptional analytical skills and engineering fundamentals Cradle to grave development of three axis stabilized spacecraft incorporating momentum, magnetic, and propulsive control Strong understanding of orbital mechanics, including low thrust trajectory optimization and stationkeeping Experience in verifying GNC algorithm performance via simulation, and validation of the simulation's models Experience with state estimation, particularly attitude determination, orbit determination, GNSS, and radio navigation Familiarity with numerical probability of collision methods such as Alfano, Foster, and Hall General familiarity with the disciplines necessary for spacecraft flight including; structures, propulsion, avionics, GNC, flight software, dynamics, launch and mission operations, and integration. Practical experience in real world development of these systems is highly desired Capable of identifying and solving complex problems with little to no supervision or direction Passion for advancing the commercial space industry Ability to work in a fast-paced, autonomously driven, and demanding start-up atmosphere Excellent communication skills both written and verbal **ADDITIONAL REQUIREMENTS:** Must be willing to work extended hours and weekends as needed **COMPENSATION AND BENEFITS:** Pay range: GNC Engineer/Senior: \$160,000.00 - \$220,000.00 per year Your actual level and base salary will be determined on a case-by-case basis and may vary based on the following

### Hiring organization

SpaceX

### Job Location

Redmond, Washington, United States

### Base Salary

\$ 77500 - \$ 117500

### Date posted

May 30, 2024

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considerations: job-related knowledge and skills, education, and experience. Base salary is just one part of your total rewards package at SpaceX. You may also be eligible for long-term incentives, in the form of company stock, stock options, or long-term cash awards, as well as potential discretionary bonuses and the ability to purchase additional stock at a discount through an Employee Stock Purchase Plan. You will also receive access to comprehensive medical, vision, and dental coverage, access to a 401(k)-retirement plan, short & long-term disability insurance, life insurance, paid parental leave, and various other discounts and perks. You may also accrue 3 weeks of paid vacation & will be eligible for 10 or more paid holidays per year. Exempt employees are eligible for 5 days of sick leave per year. Please mention the word **\*\*GLEEFUL\*\*** and tag `RMzQuMTQ1LjlyMC41NQ==` when applying to show you read the job post completely (`#RMzQuMTQ1LjlyMC41NQ==`). This is a beta feature to avoid spam applicants. Companies can search these words to find applicants that read this and see they're human.

## Contacts

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