Job Title
Autopilot Team Leader

Company
At F-drones, we are building the world’s first large-scale transition drone to enable aerial deliveries to ships and offshore platforms. Our proprietary aircraft will have a combination of heavy payload and long range capabilities that would put other existing delivery drones to shame. With such incredible specs, our drone can still take-off vertically, fly like a fixed-wing aircraft, and land on a moving target. Consumer-grade drones are passe; We are building aviation-grade drones that would set high safety and reliability standards. We aim to be the leader of heavy payload drone logistics across industries in 5 years.

F-drones is an early stage startup backed by some exciting entities. We are looking to build an exceptional & passion-driven core team to lead strategic developments. You will be shaping an entirely new product, see it fly (literally) and make a dent in the drone industry.

Role
You will join us as a core team member and lead the autopilot development at F-drones. This is multifaceted and you are expected to build, manage and develop a team as we progress.

The software stack would be based on either PX4 or Ardupilot and you will be responsible to coordinate with Computer Vision, Embedded and Design teams to build robust autopilot software for the targeted use cases. The target is to build an aviation-standard autopilot with features like VISLAM (for vision based navigation), detect and avoid, multi-sensor based landing system and smart fail-safes. You are expected to develop/modify control algorithms (based on the feedback from various sub-systems) to suit the flight profile and standard operating procedure.

C/C++ will be the main language used across multiple codebases. ROS may be used by other systems like VISLAM etc., Development should follow software certification standards (aviation) and you must establish processes with other teams to ensure that these standards are met. Extensive SIL and HIL simulations must be performed before field testing. Since BVLOS is the main mode of operations, you are required to develop controlling over LTE capabilities.
Your profile

- Masters in Electronics/Computer science/Aerospace or similar discipline. Exceptional individuals with lower academic qualifications may be considered.
- More than 3 years experience working on flight control software development
- Experience in the entire product development lifecycle, and able to prioritise and meet deadlines
- Excellent knowledge and understanding of UAV System Dynamics, Flight Mechanics and State Estimation
- Experience with PX4 or ardupilot
- Programming experience in C++, Python, ROS, Linux
- You preach and put into practice the importance of maintainability, relentless testing and enjoy implementing best practices
- Know-how of RTOS (multi-threading, multi-tasking, POSIX APIs) is a plus
- Know-how of communication protocols such as MAVLINK, RTPS/DDS
- Experience with Arm-based microcontrollers (STM32 F4 and F7 families is a plus) and embedded peripherals (USB, SPI, UART, I2C, CAN, DMA, ADC, timers)

What do you get

- Opportunity for leadership and charting the company’s strategic directions
- Be in the driver’s seat in shaping the company’s core product, from design to delivery
- Build a product for the global market
- Get unparalleled learning opportunities in a fast-growing startup
- Work in Singapore, one of the world’s leading aerospace hubs
- Competitive salary and equity
- Work hard, play hard
- Fun and dynamic culture

Please send applications to: contact@f-drones.com

Application Deadline: 30 April 2020
Job Title
Computer Vision Systems Team Leader

Company
At F-drones, we are building the world’s first large-scale transition drone to enable aerial deliveries to ships and offshore platforms. Our proprietary aircraft will have a combination of heavy payload and long range capabilities that would put other existing delivery drones to shame. With such incredible specs, our drone can still take-off vertically, fly like a fixed-wing aircraft, and land on a moving target. Consumer-grade drones are passe; We are building aviation-grade drones that would set high safety and reliability standards. We aim to be the leader of heavy payload drone logistics across industries in 5 years.

F-drones is an early stage startup backed by some exciting entities. We are looking to build an exceptional & passion-driven core team to lead strategic developments. You will be shaping an entirely new product, see it fly (literally) and make a dent in the drone industry.

Role
You will join us as a core team member and shape the development of computer vision-based systems at F-drones. This is multifaceted and you are expected to lead a team as we progress.

You will work closely with Autopilot software, Embedded and Design teams to build a robust vision/LiDAR ecosystem (on-board the drone) for perception-based navigation and landing. The target is to build an aviation standard single-subsystem which can enable VISLAM (for vision-based navigation), detect and avoid, multi-sensor based landing and smart fail-safes. Development should follow aviation certification standards and you shall establish processes with other teams to ensure that these standards are met. Extensive SIL and HIL simulations must be performed before field testing.

At F-drones, you will be charting the development of world-class computer vision systems that enable centimeter level landing-accuracies for our drones. The drones will also be able to avoid obstacles and unsafe landing locations, and be equipped with seamless fusion of GPS, VIO and other sensor-based navigation to provide the best overall mission accuracy.
Your profile

- Masters in Electronics/Computer science/Aerospace or similar discipline. Exceptional individuals with lower academic qualifications may be considered.
- More than 3 years experience working on Vision systems/LiDAR, Image Processing/SLAM and multi-sensor fusion
- Strong background in sensing, localization, behavior, and path-planning for probabilistic robotics (including computer vision, vision-based localization and mapping, robot perception, robot behavior, and autonomous vehicle development)
- Experience in the entire product development lifecycle, and able to prioritise and meet deadlines
- You preach and put into practice the importance of maintainability, relentless testing and enjoy implementing best practices
- Programming experience in **C++**, **Python**, **ROS**, **Linux**
- Know-how of communication protocols such as MAVLINK, RTPS/DDS is a plus

What you get

- Opportunity for leadership and charting the company’s strategic directions
- Be in the driver’s seat in a key part of the company’s launch product, from design to delivery
- Build a product for the global market
- Get unparalleled learning opportunities in a fast-growing startup
- Work in Singapore, one of the world’s leading aerospace hubs
- Competitive salary and equity
- Work hard, play hard
- Fun and dynamic culture

Please send applications to: contact@f-drones.com

Application Deadline: **30 April 2020**