

# Job Specification

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## Sensor Fusion Engineer

<b>Responsible to:</b>	<b>Head of Digital Systems Engineering</b>
<b>Grade</b>	Senior / Principal (depending on experience)
<b>Salary:</b>	To be agreed
<b>Hours of work:</b>	37 hours per week
<b>Work location:</b>	Oakley, Bedford (Hybrid working available)

### Role purpose:

In this exciting, dynamic role you will support a mixture of R&D and product development activities within a leading autonomy and unmanned systems company. Blue Bear continuously innovates within the core area of Unmanned Aerial Systems (UAS/UAV) such as navigation state estimation systems, flight management systems, autopilots, mission systems, ground control stations, and all supporting systems and infrastructure.

Your role as a Sensor Fusion Engineer will involve developing, maintaining and testing safety critical software that contributes to the flight systems of our aircraft. You will contribute to requirements capture and definition, and use appropriate programming tools such as MATLAB/Simulink to generate software such as attitude and heading reference systems and inertial navigation systems. After verification and validation performed using bespoke simulations, you will then be expected to deploy the software on to the target hardware, and conduct real world flight testing at our test facility less than 1km from the office. You may be asked to present the findings of the testing in reports or customer facing presentations.

As well as undertaking technical tasks, you will be expected to take an active role in the team. This will include contribution to the development of standard operating processes, continuous improvement of methods and techniques, and ensuring quality targets are satisfied.

Working as part of a team in a multidisciplinary environment you will have good communication skills. A can-do attitude and a genuine passion for innovative technology. The opportunity will enable the successful candidate to gain knowledge of cutting-edge autonomous systems and offer a large scope for career development.

**Skills:****Essential:**

- Degree in mathematics or a relevant engineering discipline.
- Extensive experience developing and implementing state estimation techniques such as Kalman filters.
- In depth knowledge of the operational principles and characteristics of the different types of sensor typically used for navigation.
- Experience in using MATLAB/Simulink for developing algorithms.
- Experience in data processing and analysis.

**Desirable:**

- Experience designing and implementing simulation models of navigation sensors.
- Knowledge of principles of flight mechanics, aerodynamics and how to model them.
- Hands-on experience with embedded computing systems and small UAS.
- Experience with Mathworks' Stateflow, Simulink Coder and Embedded Coder packages.
- Version control systems e.g. git.
- C, C++, Python development skills.

**Other useful skills for this role:**

- Experience with quality standards for software (e.g. DO-178, ED-20x).
- Existing SC Clearance.

**Other Duties and Responsibilities**

- To undertake such other duties and responsibilities as may be reasonably required within the grade and level of the post.
- To actively participate in Blue Bear's Performance Management Scheme.
- You will be expected to perform different tasks as necessitated by your evolving role within the company and the overall business objectives of the company.
- Some travel within the UK may be required.

**What's in it for you**

- Work in a highly motivated SME at the cutting edge of Engineering.
- See your work rapidly progress to live testing in a matter of months not years.
- Competitive Salary.
- Pensions.
- Life Cover 5x your salary.
- Income Protection Cover.
- BUPA Medical and Dental.
- Health Cash Plan.
- Employee Assistance Programme.
- Refer a Friend Reward Scheme.

## **Equality and Diversity**

We are committed to the promotion of equality of opportunity in all of our activities and to encouraging access to our organisation from all groups irrespective of the equality strands. We are working to create an environment in which cultural diversity and individual difference are positively valued in an atmosphere free from harassment and discrimination. We take our legal and moral obligations with respect to equal opportunities seriously and welcome dialogue with individuals on ways in which our equal opportunities policies and practice can be enhanced.

## **Health and Safety**

The organisation together with the assistance of all employees are fully committed to developing a positive safety culture.

We encourage and support employees becoming involved in and participating in health, safety and welfare matters. Our goal is to motivate and empower all employees to work safely and protect their long-term health, not simply to avoid accidents.

## PERSON SPECIFICATION

<b>Education/Qualifications</b>	<b>S/L</b>	<b>I</b>	<b>A</b>
<i>Essential:</i>			
• Degree in Mathematics or a relevant engineering discipline	<b>X</b>		
<b>Knowledge and Experience</b>			
<i>Essential:</i>			
• Extensive experience developing and working with state estimation algorithms for navigation	<b>X</b>	<b>X</b>	
• In depth knowledge and understanding of operation and characteristics of navigation sensors		<b>X</b>	
• Experience using MATLAB/Simulink to implement state estimation algorithms		<b>X</b>	
• Experience using MATLAB/Simulink for data analysis and processing		<b>X</b>	
<i>Desirable:</i>			
• Knowledge of Stateflow, Simulink Coder and Embedded Coder		<b>X</b>	
• Experience developing simulations of navigation sensors and air vehicles		<b>X</b>	
• Hands-on experience working with embedded systems		<b>X</b>	
• SC Clearance or ability to achieve it		<b>X</b>	
• Software development experience with C or C++		<b>X</b>	
<b>Personal/Behavioral Attributes</b>			
<i>Essential:</i>			
• Ability to work to tight deadlines		<b>X</b>	
• Creative and innovative thinker and planner		<b>X</b>	
• Excellent problem-solving skills		<b>X</b>	
• Team player		<b>X</b>	
• Good analytical and communication skills		<b>X</b>	
• Passion for innovation		<b>X</b>	
• Excellent writing and speaking skills		<b>X</b>	
<b>Other Requirements</b>			
<b>Subject to</b> security vetting to a minimum BPSS level (further security vetting based on position)	<b>X</b>		

**S/L = Short Listing      I= Interview      A=Assessment**