

Dear Madam or Sir,

I am writing to express my enthusiastic interest in the Advanced Software Engineer position at Vertical Aerospace. I am a Senior SLAM Engineer with over 7 years of experience developing high-performance, production-grade C++ robotics software.

I would be proud to contribute to the company mission to make fully electric public transport, which is unaffected by congested urban traffic, available to everyone. I can see how this would have extremely positive reverberations on the environment. For this reason and for its commitment to equality and dedication, Vertical Aerospace strikes me as a great place to work.

My technical background aligns closely with the requirements of this role:

- **Strong software engineering fundamentals & proven experience delivering high-quality software**

I have developed a deep understanding of how to make software architectures scalable and future-proof and of how to face the challenges brought by multithreaded systems. I have led the design of major software epics, focusing on code quality and modern paradigms to maintain a production-grade 3D LiDAR SLAM library.

- **Proficiency in one or more backend languages**

I have over 7 years of professional experience in C++ and I have been using Python for scripting alongside it. I have been learning Rust for the last three years.

- **Experience developing on Linux/macOS, using containers**

I have always worked on Unix platforms and, when possible, I prefer to develop into containerized environments.

- **Working knowledge of databases, testing, automation, and CI/CD in agile teams**

I enjoy working in a SAFe (Scaled Agile Framework) environment, planning future work carefully, and performing in-depth code reviews. I consider software testing as important as the core development. I am used to working in CI/CD environments built with Jenkins or GitHub actions.

- **Confidence to tackle complex, ambiguous challenges**

My work in SLAM and state estimation involves complex factor graphs, Lie algebra, covariance propagation, real-time requirements, processing extremely dense sensor data, and implementing state-of-the-art algorithms from white papers. I believe that the knowledge gained is transferable to this role's responsibilities, allowing for efficient cross-team communication and the capability to deeply understand problems coming from a wide range of theoretical backgrounds.

I am eager to bring my expertise in high-performance software engineering to Vertical Aerospace. Thank you for your time and consideration.

Yours faithfully,

Edoardo Ghini