

Dear Madam or Sir,

I am writing to express my enthusiastic interest in the Senior Rust Software Engineer position at Fractile. I am a Senior SLAM Engineer with over 7 years of experience developing high-performance, production-grade C++ robotics software. I am impressed by the potential of the company. It strikes me as a great place to work. I would be proud to contribute to the company mission to scale up the hardware inference capabilities through the Compute-In-Memory paradigm.

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

- **Strong senior developers in another systems language**

I have over 7 years of professional experience in C++ and Python. 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. I enjoy working in a SAFe (Scaled Agile Framework) environment, planning future work carefully, and performing in-depth code reviews. I am often volunteering suggestions to ameliorate the team's pain points, and I find satisfaction in mentoring new engineers, always promoting a collaborative team culture.

- **Creative problem solving and capability to tackle hard problems & experience moving large amounts of data around in real-time at low latency**

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 designing and building a full AI inference software stack.

My academic background in artificial intelligence and robotics from La Sapienza provided me with a strong theoretical understanding of the AI/ML landscape. I have consistently prioritized clear software architectures alongside performant implementations. I committed to Rust three years ago, learning and experimenting with it in my spare time. It would be extremely fulfilling to use Rust professionally.

The Rust projects that I developed are visible on my GitHub: <https://github.com/dinies>. Those projects are named **hexgame\_rs**, **sigma\_learning\_rs**, and **experiments\_rs**.

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

Yours faithfully,

Edoardo Ghini