

# Xavier Loizeau | Applied Mathematician - Data Scientist

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**Arconic Fastening Systems**

9th of July 2018

To whom it may concern,

In the last phase of my PhD in Mathematical Statistics at Heidelberg University, I plan the following steps of my carrier. I search for both scientific challenge and the feeling to contribute to our society's evolution. Hence, joining Arconic would perfectly fit my projects.

From early on, I wished to work on thrilling, multidisciplinary, technological projects. These require, on the one hand, a strong theoretical background in order to develop new methods and understand existing ones, and, on the other hand, adaptability to real-world data which do not fulfil most common theoretical hypotheses. That is why I completed a Master's degree in advanced statistical engineering along with two dual degrees in mathematics.

Then, thanks to internships, I got used to facing concrete challenges requiring adaptability and communication with multidisciplinary teams. For example, I spent six months at the ONERA, where the unit was mainly composed of astrophysicists and mathematicians specialised in numerical analysis. It was for me a fantastic first experience in the domain of aerospace research during which I got in touch with many of the technics described as important in your position description and I would be interested in deepening my knowledge in this domain.

Finally, my current experience in academic research allows me to strengthen my scientific knowledge. I learned a lot about the theory of adaptive nonparametric methods for inverse problems and currently develop an R package allowing to use those methods in concrete situations. I also created a website ([www.xavierloizeau.eu](http://www.xavierloizeau.eu)) where I briefly describe my research. As a member of a research training group, I developed a broader view of interactions between fields of mathematics. Teaching and presenting my work at international conferences helped me to improve my communication skills. It is also a valuable first experience of work in Germany, which official language was perfectly unknown to me before my arrival.

As a continuity, joining your company would be a great opportunity for me to keep up with this rigour which underpins scientific research and to apply it in a multidisciplinary context.

I believe that my personality, too, would be suitable for such a position. Curious and eager to learn, these two qualities reveal to be particularly useful multidisciplinary projects. The lectures I follow online as well as my technological surveillance are pieces of evidence of it. I also live my personal activities intensely. As a musician, I organised concerts with several bands. Sporty, I appreciate the necessity of cohesion to win a volleyball or handball match but also the self-control needed in

martial arts and bouldering. Finally, literature is an important way to cultivate my curiosity and imagination.

To sum up, my character and ambitions pushed me to develop skills and personality traits which I believe to be important for this position. Consequently, I believe that joining you would be mutually beneficial.

I look forward to discussing my motivation with you during an interview.

Yours faithfully,

**Xavier Loizeau**