

Xiaochuan Yang, Ph.D.

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October 26, 2023

**Foyer
Luxembourg**

Ref: Research Oriented Data Scientist – Foyer

Dear Hiring Manager,

I am writing to apply for the role of Research-Oriented Data Scientist as advertised. I believe my strong academic background in mathematics and data science, as well as my professional experience, make me an ideal candidate for this role.

I hold a Ph.D. in Mathematics from Université Paris-Est, where my research was primarily focused on probability theory, stochastic processes, and statistical models, all of which are highly relevant to data-driven research and scientific computing. My work has resulted in 21 peer-reviewed papers, several of which deal directly with risk metrics such as Value at Risk (VaR) and Expected Shortfall (ES). This academic background is strengthened by a 10-year-long journey in quantitative research, teaching, and consulting, with a current role as a Researcher and Lecturer in Data Science at Brunel University, London.

In my most recent role, I have been involved in quantitative courses covering machine learning, time series analysis, and stochastic calculus, to name a few. I am currently supervising a Ph.D. student focused on event arrival modelling with Hawkes processes which is directly related to insurance industry.

I have extensive experience with various stochastic models used in quantitative risk management, such as GARCH, EWMA, and Point Processes. While my expertise is not centered around domain-specific applications, my foundational understanding of mathematical and statistical models is adaptable to various research contexts. I am committed to continuous learning and skill development in this pivotal aspect. My technical prowess extends to programming skills with mastery in Python and proficiency in R, SAS, and SQL. I have used these tools for modeling data and conducting analyses in my previous roles as an EPSRC Postdoctoral Researcher at the University of Bath and an FNR Luxembourg-Singapore bilateral researcher.

Professionally, I have consulted for the NHS Rheumatology in Bath, where I developed machine learning models for damage detection in Psoriatic Arthritis. In addition, I developed a project on toxin diagnosis by cellular morphology for the Defence Data Research Centre and Alan Turing Institute in Exeter. These experiences have fortified my ability to handle real-world applications of machine learning and data science.

Being bilingual in English and Chinese and having a level C1 proficiency in French, I meet the language requirements for the role. As someone deeply passionate about sharing knowledge and fostering teamwork, I believe I align well with the transversal skills sought in your job description.

I am excited by the opportunity to bring my unique blend of skills and experience to your organization. I am particularly attracted to this role because it enables me to leverage my academic expertise for research-oriented applications in data science, aligning with my long-term career goals and my personal goal of relocating to Luxembourg, where my wife resides.

Enclosed are my curriculum vitae and copies of my diplomas for your review. I look forward to the possibility of discussing my application with you further.

Thank you for considering my application. I am available for an interview at your earliest convenience.

Yours sincerely,

Dr. Xiaochuan Yang