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Smith Institute
Willow Court
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Dear Sir or Madam,

I would like to apply for the mathematics internship at the Smith Institute. I am a third year PhD student at the Maxwell Institute Graduate School for Analysis and its Applications, a joint programme by the Universities of Edinburgh and Heriot-Watt. I am working on modelling and optimization of particle dynamics, with a focus on the numerical implementation of efficient algorithms and industrial applications.

My career goal is to use my mathematical expertise to help companies work at their optimum, by supporting them in tackling business challenges and by optimizing processes to yield time, energy and financial savings. Working at the Smith Institute perfectly aligns with this goal, since the institute helps clients from a variety of sectors to improve their business, using a continuously growing range of mathematical techniques. I am particularly impressed with the institute's focus on algorithm auditing, which is an important tool, given that data and algorithms increasingly inform business decisions across sectors.

Effective communication of mathematics, in particular to non-expert audiences, and productive interdisciplinary collaboration are prerequisites to working with industry. I have actively built these qualities by working on interdisciplinary projects, by organising events connecting people across career stages and scientific disciplines and by engaging in science communication and outreach activities. As a PhD student in mathematics, organisation and time management, as well as the ability to work independently on a complex task come naturally to me, and have been crucial in successfully working remotely under minimal supervision during the past year.

I believe that my strong academic record, my proven ability to work independently and collaboratively on complex mathematical problems and my passion for industry and business applications of mathematics make me a great fit for your institute. I would be interested in starting an internship with the Smith Institute any time from September 2021 and I am flexible regarding the duration of the placement. If an earlier starting date was preferred, I would be happy to discuss this as well.

I look forward to hearing from you.

Yours Sincerely,
Jonna Roden