Personal Statement

2015, Mathematics, Pembroke College

Thanks to my early interest in maths I was admitted to Fazekas Secondary School, which I attended for 3 years before transferring to Berzsenyi Secondary School; both follow a special maths curriculum that opened up a whole new range of opportunities for me. Every summer, my head-teacher in Fazekas gave me books to read and afterwards we talked about their content, be it projective geometry or algorithms with proofs. Out of interest, I also read Coxeter's Geometry Revisited and A. Engel's Problem-Solving Strategies. Outside school, I went to Lajos Pósa's camps where I encountered hard combinatorial problems, one of my favourite areas beside number theory. By solving problems I was introduced to axiom of choice and its applications, Russell's paradox, game theory and infinity; rather than show us the solutions, the teachers let us do research, pushing us to ask the right questions. I am very grateful to Mr Pósa who tutored me personally, inviting me to his home and giving me extra problems. As I love being among children, I became a student assistant at his camps, and started tutoring students in maths and physics. My teachers also gave me the opportunity to hold weekly extracurricular lessons for 7th graders on my own. Thus I discovered a passion for teaching and a possible career pathway beside research. As the only high school student, I was asked to help create a textbook from problems featured in the Kalmár László maths competition. I also helped organise several maths and science competitions. With the help of great teachers my persistence and hard work paid off in competitions:

-Middle European Maths Olympiad 2012 silver medal (absolute 3rd-5th), 2nd at the team competition; 2013 silver medal (absolute 4th-5th), 2nd at the team competition

-Romanian Master in Maths 2013, solving the hardest problem

-OKTV (national maths olympiad) 2013: 2nd place, 2014: 8th place

-International maths competition for ethnic Hungarian students (from 5 countries) 2012-2014, absolute 1st for 3 consecutive years, winning special prizes in 2013 and 2014

-KoMaL "A" (each month, Géza Kós from the IMO problem selection committee proposes 3 hard IMO level problems) 2014: 3rd/4th

-Kürschák József National Competition (1st year undergraduates compete as well) 2013: honorary mention

-National Kangaroo maths competition 2014: 1st place

-Arany Daniel National Competition 2011: 3rd prize, 2012: honourable mention

-Kavics Kupa team competition 2013: 2nd place, 2014: 1st place. As a result, we participated in the Italian Maths Olympiad team competition and in 2013 came 2nd.

In the last 2 years I was invited to attend all the trainings of the Hungarian IMO team in the summer and the winter training camp with the UK IMO squad. There I came 3rd in individual problem solving and 4th in the IMO style paper this year. Through expert lectures I also deepened my knowledge of Pell's equations, Erdős-Mordell inequality and Gaussian integers. At age 16 I came 14th at the Nemes Tihamer National IT competition and was invited to take part in the selection process for the International and Central European IT Olympiad, coming 9th at the selection process for the latter. I also did athletics for many years and was on my schools' relay teams. I have been an enthusiastic organiser of Berzsenyi's camp for new students and many other programmes in school, and this year received a certificate for my outstanding work. Community and personal relationships are very important for me. I believe I would gain from the inspiring academic environment, world-famous professors and personal supervision in the UK. To prepare, I currently attend lectures at ELTE university (mainly in discrete mathematics) by famous Hungarian professors such as József Pelikán or Géza Kós. At the same I am working hard to improve my English to be ready for studying at a top UK university.