



DEPARTMENT of MATHEMATICS

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To whom it may concern,

This is a letter in very strong support of Kristian Olsson's application for an internship position at the Data Science for the Public Good program at UVA. Kristian was a student in Basic Real Analysis, a course which I taught at the University of Virginia in Fall 2021. Kristian is a very good student with great character and excellent work ethics. I strongly recommend him for this position.

Math 3310, Basic Real Analysis, is a first course in Real Analysis, where we set up the foundations of the real line following the book 'Understanding Analysis' by Abbott. Some of the main topics include: the Axiom of completeness, density of the rational numbers and construction of the real line, convergence of sequences and series of real numbers, continuity and limits of functions, differentiation and construction of the Riemann integral. The course is very proof heavy, with only little emphasis on the computational aspect. It is generally considered one of the hardest two courses required for the math major at UVa and the average student struggles a lot with the abstraction and the advanced proof writing.

Kristian had a bit of a rough start with the course, mainly because this was his first proof based course. This is something quite common with these types of courses. What is much less common was Kristian's reaction to this. He realized his struggle very early on and he approached me during office hours to ask for guidance on how to study more effectively. Most students with similar background get discouraged, they rely too much on their peers for help and they end up giving up. But that was not the case with Kristian. What happened next was a really positive surprise to me and shows his determination and work ethic. Kristian started working exactly like I told him, attended office hours every single time and he even created a study group with 2 other students who helped each throughout the semester. In the first midterm exam he scored a modest 52%, which was below average, but it already indicated significant progress in his understanding and his writing skills. When I discussed with him in office hours, I could see he was feeling much more confident than in the beginning and he knew he could do better. This is the kind of determination I wanted to see. On the second midterm he scored 74%, which was above the median and the overall performance was very satisfactory. The progress he had made since the beginning of the semester was really incredible and he was definitely on a positive trajectory to get at least a B+ for the course. He had become very independent and had gained very deep understanding of the material. Finally, at the end of the semester he had become one of the strongest students in the class. He scored an almost perfect 96% on the final exam. In fact, his exam

was almost flawless. He ended up with an A- for the course and I can say with certainty that among the 37 students who were in the class, Kristian had shown the most growth. In fact, I can even say he is one of the 2-3 students I've had in all institutions I have ever taught that had such an upward trajectory. I am very proud of him. I wish all students reacted to feedback the way he did and showed the premise Kristian showed. His spirit and determination are truly extraordinary.

I would like to add something about Kristian's personality. He is one of the kindest and most grateful students I ever had the chance to teach. As mentioned earlier, he started working with a couple of other students, all of whom had a hard time in the beginning and felt underconfident. Kristian's positive spirit and leadership helped them all do much better and keep up with the course. Whenever they visited my office hours, I could see how well they worked together and what a positive impact he had on the entire group. Having students with Kristian's character is a real pleasure and a true asset for the instructor.

To sum up, Kristian Olsson did an incredible job in my class. He is sharp, very determined, has excellent work ethics and a very kind personality. He can succeed in everything he sets up his mind to. I recommend him for your position without any hesitation.

Sincerely,

A handwritten signature in black ink, appearing to read "E. Gazaki".