Personal Statement

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Dear members of the selection committee,

Introduction and Area of Interest

I am writing to express my interest in the Doctoral Degree program in Computer Science at the University of Colorado Boulder. I am particularly interested in Improving Video-Streaming Systems, specifically designing architectures and improving their algorithms. I aim to develop new hybrid mathematics optimization algorithms and techniques to enhance video-streaming levels on low-speed networks. I firmly believe this area requires innovative methods to spark its growth, and much work is left to be done for further advancement.

Academic Background

During my high school years, I was deeply interested in mathematics and programming. I always wanted to pursue my studies in computer science, and I worked hard during these years to be admitted to the Prestigious Ferdowsi University of Mashhad. Studying for more than 10 hours a day for a year was a phenomenon that taught me how to concentrate intensely on my studies. This attitude proved to be a practical skill further down in my life.

In my bachelor's program, I was highly interested in exploring cutting-edge technologies related to Software Systems and their applications. In light of this passion, I was involved in several academic projects, a noteworthy instance would be when I implemented a sample Data Clustering Based On Key Identification algorithm in Python. It not only deepened my knowledge but also allowed me to experience technical collaboration on a team for a sample project plus the general academic abilities needed to conduct research. On the other hand, as for optimization algorithms, I have successfully implemented a Parallelized Genetic Algorithm using OpenMP (OPM) in C++. As a hard worker, during my bachelor's, I achieved A+ scores in almost all courses. Getting these results showed me that we are capable of overcoming obstacles with the help of meaningful deep work.

In addition, Being the Teaching Assistant for courses such as Advanced Programming and Discrete Mathematics and President of the Computer Engineering Students Association helped me extend my teaching and social abilities. Competing with other Bachelor's and Master's students for the election taught me how to prove myself qualified for that position. However, I also realized how impactful working in teams could be. We held conferences such as the software and algorithm conference and workshops such as LUG(Linux Users' Group) and Python Discussions for passionate students. Soft skills and particularly learning to work in teams empowered me in several situations and enhanced the quality of my work, proving incredibly useful in my academic experience.

Part-time Internship Experience

As for my professional experience, I worked as an Intern DevOps & Software Engineer at Skyroom, an online learning education video conference platform in Iran, concurrently with my studies. I completed or

contributed to designing software tools for deployment, monitoring, and operations of Skyroom education and learning video-conference application. Working directly on the Linux servers for maintaining and monitoring Skyroom online education video-conference applications was a practical experience in addition to theory.

Concluding Remarks

In conclusion, my ultimate goal in pursuing a Ph.D. program at the University of Colorado Boulder is to secure a faculty position in a top-tier university in Iran, such as Sharif or Tehran University. Professor Ha's research on video streaming especially appealed to me, and I would consider him as my potential supervisor. The University of Colorado Boulder's College of Engineering and Applied Science caught my attention as a prestigious institution with top-notch faculties such as Prof. Keller and Prof. Mishra and research opportunities available. I believe that studying at this institution will help me gain the skills and expertise required to become a professor in my home country, Iran.

Yours Truly,
Seyed Mohammad Hossein Hosseini