2. Every person has a creative side, and it can be expressed in many ways: problem solving, original innovative thinking, and artistically, to name a few. Describe how you express your creative side.

Video games are a great joy in my life! I have spent countless hours socializing with my friends on online multiplayer games. During COVID, these games became real-life savers, replacing in-person interactions with virtual interactions that were highly entertaining. Playing these games, however, involved little creative thinking. The designers determine the rules, the game mechanics, the characters, and the environment. This often frustrated me, as I wished particular rules or mechanics were different.

I, therefore, decided to create my own perfect games instead. With this objective in mind, I took community college classes to learn programming languages, from the easier Python to the more challenging C++, the language of my favorite game, League of Legends. I then took online courses to familiarize myself with C# and Unity, a game engine to assist in game development.

Equipped with these newly acquired skills, I started by creating my own version of the classic game Block Breaker. Now it was my turn to think creatively. At each design and coding step, I needed to make choices among unlimited possibilities. I realized that creating a good game requires making thousands and thousands of decisions. For instance, I had to choose what type of game mechanic I should include, what functions and classes I should create, what the ball speed should be at each level, what background color I should use, etc. Each decision I made was based on my extensive knowledge and experience of games and increasingly better coding skills.

After spending most of my spring vacation coding, I finally created a fully functioning game that I was proud of. Even my brother enjoyed playing it! I created other games in the following months, such as “Laser Defender” and “Space Defender” in 3D. Of course, my games were not perfect after all, and I realized how hard game design actually is!

Creating games is much like real life. There are unlimited choices, and each impacts how we live: there are no right or wrong answers, but better, more informed choices lead to success.

3. What would you say is your greatest talent or skill? How have you developed and demonstrated that talent over time?

I was high above the ground, lead climbing a scary cliff in rural southern France. My fingers were slipping off, my knees trembling, and my hands scrambling for small crevices. I tried not to look down. Because my rope was attached to a carabiner below me, I knew that if I slipped, I would not fall more than five or six meters before coming to a stop. Thus, my conscious brain was telling me that nothing dire would happen, that I would not drop to the ground and die or get injured.

Yet, my subconscious emotional brain was taking over. I was shaking uncontrollably, half awaiting my doom. To make matters worse, I remembered the beginner climber in our group who had fallen badly near me a few days earlier: he had flipped over, hit his head on the rock, became unconscious, and was taken to the hospital by ambulance. My fear grew worse with every second I was stuck on the cliff, unable to move down or up.

During rock climbing, as in many stressful decisions in life, the conscious brain and the subconscious emotional brain compete for prominence — the logical versus the emotional. Fear often tends to be feared, something to be overcome and left in the past. But sometimes, it is an emotion better left untouched: it processes a situation as fight or flight to increase the chances of survival.

Before this climb, I had practiced rock climbing for over ten years, climbed thousands of routes, and grasped tens of thousands of holds. Thus, my subconscious brain, shaped by these many years of intensive practice, and the instinct to go up, decided that my only choice was climbing up (fight). Giving up (flight) was not an option. I suddenly found a minuscule hold, pulled myself up with two fingers, and pushed forward to the top.

I learned a long-lasting life lesson on this hard cliff that day in Southern France: fear can be a great paralyzer, but when preceded by intensive practice, it can be highly motivational and an opportunity for growth and success.

6. Think about an academic subject that inspires you. Describe how you have furthered this interest inside and/or outside of the classroom.

My career goal is to apply mathematics to engineering to build and design rockets or rovers that can be sent to outer space and explore our vast universe. Advanced math is the foundation of engineering and its sub-field of astronautics and is crucial to launch and operate remote rovers successfully.

Contrary to popular belief, I find math… fun! Solving complex math problems sends an adrenaline rush to my body, and understanding why each problem works the way they logically do fascinates me. Irrational numbers such as Euler's number or PI, with their never-ending decimals without any patterns, fit into perfect formulas that precisely describe nature. As a result, math has endless applications and potential in the real world.

The math knowledge I gained in higher-level math courses has helped me solve equations in physics and mechanics, analyze data in computer programming and statistics, and understand and implement algorithms in my internships in computer vision and machine learning. In Project Lead the Way (an engineering program offered by my school), math was crucial in plane design by calculating resistance and drag. Finally, In our current engineering challenge facilitated by the Jet Propulsion Laboratory, math has allowed us to optimize our mechanical launcher by simulating ball speed.

Although these learning experiences have imparted me with a solid foundation, I have much to learn to become a leader in astronautics research and development. Courses in advanced math, in particular, will give me the solid theoretical background to confidently lead a team of engineers. The rockets designed by my team will not veer off course because of numerical errors like the Mars Climate Orbiter had in 1999. Our rovers will instead roam distant planets for years thanks to impeccable engineering like the Opportunity Mars rover.

Thus, math and its engineering counterparts are the catalysts for my dreams: to contribute to the success of rocket launches or the exploration of far-away planets!

8. Beyond what has already been shared in your application, what do you believe makes you a strong candidate for admissions to the University of California?

I am a citizen of the world. Three languages. Three cultures. Three passports from three countries — France, Japan, and the United States.

My childhood was not ordinary: my father only spoke French, and my mother only spoke Japanese. They tricked my siblings and me into thinking they could not speak any other language. We would learn English at school instead. Although I quickly made friends by playing soccer, I attended ESL classes throughout elementary school.

As I was finally becoming accustomed to school in the U.S., we moved to a French village for a year. I vividly remember learning to conjugate French verbs in my second-grade class, eating three-course meals at the cafeteria during two-hour lunch breaks, and enjoying multiple school vacations. After school, I ate fresh croissants and roamed the village streets with my friends. Such freedom was completely unthinkable in my urban Californian hometown!

Unlike that year in France, my experience with Japanese schools came in small chunks, from preschool to middle school. Every summer, we visited my grandparents in the Japanese countryside, where my mother enrolled us in school. I learned the Japanese drum, walked to school without parental supervision, and took turns bringing the meals for classmates into the classroom. As a picky eater, I seldom could play after lunch, as Japan has a highly non-wasteful culture where children cannot play before finishing their food. Most strikingly, my siblings and I were treated like superstars and stood out, as everyone else was uniformly Japanese. Yet I wanted to be friends and thus respected their views on eating habits and even their resistance to authentic vacations (going to school during vacations!).

As a child, I disliked moving between these vastly different schools. However, these experiences taught me how to adapt to other cultures, respect different views and opinions, and even eat whatever is on my plate! Learning to reconcile and integrate my three disparate cultures, lifestyles, and backgrounds have prepared me to become an understanding and sensitive member of the UCs' diverse student body as a representative of the world.