**COMMON APP Version Eta 2**

I love Star Trek.

Despite its 80's style animation and outdated 'futuristic' technology, Star Trek gives me hope for a better future. In the society that is Star Trek, there is no gender, human, or even alien inequality. Set in a post scarcity world, there is no poverty (no money for that matter)-- people strive to excel, not for money, not for power, but to be their best person. While such a society may not be achievable any time in the near future, these ideas are something to strive for.

Born into a family sporting powerful science pedigree, striving to achieve excellence was my normal. By age 7, I was solving simultaneous equations, and while some children dream of becoming astronauts, rock stars, or professional athletes, I dreamed of becoming a mathematician. Captured by the constancy and universality of mathematical elegance, I began a single minded journey to further my mathematical knowledge, to become as great as Euler or Ramanujan.

Through my middle school and high school years, I systematically studied mathematics independently -- first Loney's Trigonometry, then Spivak's Calculus, then Rudin's Analysis, etc. I spent my summers at math camps, being introduced to topics such as asymptotic analysis, p-adic valuation theory, and elliptic curve cryptography.

Sophomore year, I qualified for the AIME (American Invitational Mathematics Examination). In my high school -- even in the *Kansas* region, I was legend. I became inebriated with over-confidence. Junior year, to my shame, I underprepared for the AMC 12, a precursor to my ultimate goal to make the IMO (International Mathematical Olympiad). When the results came out, I was devastated: my score qualified me for nothing.

All those years of dreaming, all those years of hard work, and I had nothing to show for it. For weeks I could scarcely look at a math problem and before I knew it, the school year ended.

On a family trip to India that summer, whenever I saw trees, all I could think of were fractal patterns. >>>THINK OF SOMETHING ELSE<<<. When I saw poverty, I envisioned a distribution problem incorrectly solved.

Image by image, the constant and universal elegance of mathematics cracked through my self-imposed math isolation. On a Sunday evening, sitting on the floor of my grandparent’s living room, for the first time in several months, I pulled out a book on diophantine equations and began anew. In a moment of problem solving, I realized my past flawed motivations: I had been learning math as a channel to satisfy a superficial need to prove myself, rather than for its intrinsic beauty.

I rediscovered my love for mathematics. Mathematics is that which puts formalism into abstraction. Mathematics puts meaning into meaningless. It allows me to create a function that takes a number, nonexistent in the real world, and output something tangible; it allows me to visualize a fifth dimensional hypersphere; it allows me to define my own crazy number system where 1+1 is not 2, but rather 0! (Not a factorial). Mathematics gives me power. Power to see what can’t be seen. Power to create what can’t be made. Power to problem solve. Power to think.

In any mathematical problem, when one approach fails, one must try another, and another, and another, perhaps never to succeed. But when a path to solution is finally revealed, it is a glimpse of pure wonder and exhilaration. As a result of mathematical distinctiveness in the universe I see the world differently. But this is only the beginning, there is still so much for me to learn. If mathematics is the sea, I am a sailor who has only recently dispatched the harbor. I will continue to learn and feed my mathematical hunger.

Why? Because I have a mission, an unquenchable desire, to expand mathematical understanding, to seek out strange, interesting new problems, to boldly venture into areas that no man has solved before.

**COMMON APP VERSION ETA 3:**

In Pale Moonlight

I love Star Trek.

I don't watch it for the space battles. I don't watch it for the technology. The truth is, with 80's style animation and outdated 'futuristic' technology, Star Trek gives me hope for a better future. In the society that is Star Trek, there is no gender, human, or even alien inequality. Set in a post scarcity world, there is no poverty (no money for that matter), and people are set free to take up their desires. "To better themselves and the rest of humanity," people strive to excel, not for money, not for power, but to be the best they can be. While such a society may not be achievable any time in the near future, this idea of achieving excellence is something to strive for.

Even from a young age, I had been ingrained this idea of achieving excellence, wherever I went, whatever I did. My family has a pedigree of science, so I was introduced to the mathematics at an early age. While some children dream of becoming astronauts, movie stars, CEOs, I'd dream of becoming a mathematician. As soon as I discovered my love of mathematics, it became my desire to be the best. When I was told to dream of becoming as great as Euler or Ramanujan, I'd haughtily retort that I'd be become even better than they were.

I was drawn to math competitions as a way of proving my excellence to the world. Initially, I did math competitions conducted by my school, but soon I set my site on a much larger goal -- Olympiad mathematics. Through my middle school and high school years, I systematically independently studied mathematics, first Loney's Trigonometry, then Spivak's Calculus, then Rudin's Analysis, etc., all the while practicing to achieve my competition math goals. I spent my summers at Math Camps just to continue learning more and more.

Finally, my sophomore year of highschool I qualified for the American Invitational Mathematics Examination, the next step in qualifying for Olympiad. I had wanted to do better, but I wasn't too concerned because I'd do better the following year -- or so I thought. The next year, determined to finally qualify into the USAMO, I took the test again. When the results came out I was devastated. I hadn't even qualified for the AIME. The one constant throughout my years of study was progression, I'd always gotten better. But now I had regressed.

My whole idea of life, the pinnacle of my existence, was to be excellent. But I wasn't excellent. I was nothing. All those years of dreaming, all those years of hard work, and all I had to show for it was a single qualification to the AIME. I had dreams of qualifying to the IMO, yet scarcely 1% of those dreams had been achieved. For weeks I couldn't even look at a math book. It was impossible to reconcile my own unexceptionality in mathematics with my supposed desire to be the best.

Only later would I begin to realize my own corruptness. Mathematics was elegant, but I was no longer learning it to fulfill my desire, but rather to satisfy a superficial need to prove myself. When I realized my fallacy, and remembered about achieving excellence for its own sake, I began to rediscover my love of mathematics. Mathematics is that which puts formalism into abstraction. Mathematics puts meaning into meaningless. It allows me to create a function that takes a number, nonexistent in the Real world, and output something tangible; it allows me to visualize a fifth dimensional hypersphere; it allows me to define my own crazy number system where 1+1 is not 2, but rather 0! (Not a factorial). Mathematics gives me power. Power to see what isn't. Power to create what wasn't. Power to think.

Each and every mathematical problem I encountered was its own, unique journey. When one approach failed, I had to try another, again and again, perhaps never to succeed. But whenever I did, when I finally cracked through the walls, it was a feeling unlike any other -- pure beauty and exhilaration.

So I failed, I disappointed, but the worst part is that it nearly killed my love of math. But no longer. If there is one thing that I've learnt, it is that mathematics is remarkable and nothing, no one, no obstacle, and no defeat, will ever again be able to stop me from realizing that. So I will continue to learn, continue to quench my thirst for knowledge, and continue to strive for excellence.

EDITED:

In my room, on my cluttered desk, filled with papers containing scribbles of this and that, is a little blue book. When I have a segment of time to think I open this book up and treat myself to some new, interesting mathematical knowledge or problems that I have never seen before. Yes, I know you are thinking about how any of this proves that the University of Chicago will satisfy my desire for learning, but don't worry I'll get there.

The story starts with my inquisitive self searching to find the most difficult undergraduate mathematics class in the world. My search led me to the University of Chicago's Math 207/208/209, Honors Real Analysis. Intrigued, I dug up more and found about this 'Honors Analysis'. The class had a sort of lore around it: exclaimed by many as nearly impossible and consisting only of the heaviest of workloads. I was immediately infatuated. I found some course materials and problem sets online. While I could do some of the problems from my preexisting knowledge, I realized that there was still so much for me to learn. Desiring to learn the subject, I searched everywhere for a book until I found the acclaimed 'Principles of Mathematical Analysis' by Walter Rudin. After buying it, it became an incredible fixation. I spent every available spare minute of my time quenching my thirst to learn more.

UChicago is unique. What other college can inspire a student to learn more and further their knowledge without even having that student enrolled in the university much less the class by which they were inspired!

Even from a young age, I'd always wanted to become a mathematician and go into mathematical research. Mathematics, however, having existed for thousands of years (thereby meaning that most trivial concepts have already been discovered), lacks many research opportunities at the undergraduate level, let alone at the high school level. That being said, UChicago contains not only one of the best mathematics programs in the country, but also has the best opportunities to experience an introduction to future graduate research.

Not only are many undergraduate classes like Honors Real Analysis at a semi-Graduate level, but Undergraduate students are also given the opportunity to take other, real graduate level courses provided that students fill the prerequisites. The Research Experience for Undergraduates allows students to intensively study and research a particular area of mathematics and serves as a possible introduction to graduate level research. Most of mathematics I have studied through both my school work and my independent study has dealt with solving problems that have already been solved. But anyone can solve problems with a known schematic. Ask a middle schooler to find the hypotenuse of a triangle given its bases and they’ll give you the answer, but ask them to solve a problem that they have never seen before, ask them to discover a new method of solution, it's only then that true ingenuity comes into play. To solve problems that have a known answer is much different than to approach the unknown. The REU would be the best way for me to experience an introduction to this unknown. It would allow me to go beyond established knowledge and stretch the understanding of mathematics. UChicago's Directed Reading Program allows undergraduates to be paired with grad students and undertake projects that they may be interested in. In addition to gaining knowledge on a topic of interest, this program will allow me to develop relationships with students and faculty -- relationships which are vital for a future in academia.

I want to be able to share and relate my experiences to other peers, not only in my own field of mathematics, but also in other areas of interest. One thing I've become quite acquainted with over my years of study is a lack of community. Most of my friends actively discourage me from pursuing a career in pure mathematics, and of my friends that do, in fact, understand my appreciation for math, I cannot converse with them in topics like Field Theory, the Construction of Real Numbers, or of anything else that I may be interested in. I am by myself: my ideas are kept to myself; elegant problems that I find are shared with no one other than myself; and my appreciation of mathematics and my journey thus far has more-or-less been unique. The University of Chicago's emphasis on understanding the true beauty of mathematics fosters a community where there is a mutual admiration for the subject.

While my primary love has always been mathematics, it has also been my intention to become a renaissance man of sorts. UChicago contains a community where disciplines like history, economics, philosophy, and politics can be actively discussed with others who have equal passion as I do. The UChicago core curriculum allows students to learn from various fields that may not be their own, thus sponsoring greater ability for educated discussion. I want to be in an environment where I can academically converse with the rest of my peers with an ultimately shared appreciation for all knowledge.

I have an intrinsic desire -- a need -- to be the best mathematician that I can. My passion for mathematics will propel me to achieve this innate desire regardless of my education, but, that being said, an education at UChicago will allow me to surpass my goals and reach beyond them into the unknown.

QED.

**OLD:**

\* How does the University of Chicago, as you know it now, satisfy your desire for a particular kind of learning, community, and future? Please address with some specificity your own wishes and how they relate to UChicago.

In my room, on my cluttered desk, filled with papers containing scribbles of this and that, is a little blue book. Every once in a while, whenever interested, I open this book and treat myself to some new, interesting mathematical knowledge or problems that I have never seen before. Yes, I know you are thinking what has any of this to do with why I want to get into the University of Chicago Quidditch team -- sorry, I mean how the University of Chicago will satisfy my desire for learning, but don't worry I'll get there.

The story starts with my totally-sane self inquisitively searching up what the most difficult undergraduate mathematics class in the world (I mean who does that, seriously?), a decision I most deeply regret. My search led me to the University of Chicago's Math 207/208/209, Honors Real Analysis. Intrigued, I dug up more and found about this 'Honors Analysis'. The class had a sort of lore around it: only the best were allowed to take it and homework was rumored to take nearly 40 hours a week. I was immediately infatuated. I found some course material and problem sets online. While I could do some of the problems from my preexisting knowledge, I realized that there was still so much for me to learn. I desired to learn Analysis, I yearned to learn it, I /needed/ to learn it. I searched everywhere for a book to learn it until I found the acclaimed 'Principles of Mathematical Analysis' by Walter Rudin. I begged my father to buy it for me, and when he finally did, it was an incredible fixation. I spend every spare minute quenching my thirst to learn more.

UChicago is truly unique. What other college can inspire a student to learn more and further their knowledge without even having that student enrolled in the university much less the class in which they were inspired! (And what student is inspired to learn about a topic by a class that he isn't even in). Even from a young age, I'd always wanted to become a mathematician and go into mathematical research. Mathematics, however, having existed for thousands of years (thereby meaning that most trivial concepts have already been discovered and thoroughly investigated), lacks many research opportunities at the undergraduate level let alone at the high school level. That being said, UChicago contains not only one of the best mathematics programs in the country, but it also has the best opportunities to experience an introduction to future graduate research.

Not only are many undergraduate classes like Honors Real Analysis at a semi-Graduate level, but Undergraduate students are also given the opportunity to take other, real graduate-level courses provided that students fill the prerequisites. The Research Experience for Undergraduates allows students to intensively study and research a particular area of mathematics and serves as a possible introduction to graduate-level research. Most of the mathematics I have studied through both my school work and my independent studying has dealt with solving problems that have already been solved. To solve problems that have a known answer is much different than to approach the unknown. The REU would be the best way for me to experience an introduction to this unknown. UChicago's Directed Reading Program allows undergraduates to be paired with grad students and undertake projects that they may be interested in. In addition to gaining knowledge on a topic of interest, this program will allow me to develop relationships with students and faculty -- relationships which are vital for a future in academia.

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I have an intrinsic desire -- a need -- to be the best mathematician that I can. My passion for mathematics will force me to achieve this innate desire regardless of my education, but, that being said, an education at UChicago will allow me to surpass my goals and reach beyond into the unknown.