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IAPC

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**Intellectual Autobiography and Plan for Concentration**

The Gallatin education was not within my educational sights at the time of application. I applied during the Early Decision II window to the College of Arts and Sciences with the intention of majoring in Computer Science. I was, however, placed in Gallatin for Fall 2013, so I decided to give the Gallatin education a try for a semester. Not surprisingly, I decided to stay for the sheer amount of freedom to tailor my education towards my specific goals.

In my first semester of freshman year, I took a combination of basic Mathematics, Computer Science and Politics courses just to get an idea of what I actually wished to concentrate in. I eventually settled with Mathematics, concentrating in Mathematical Creation. Discrete Mathematics has been the most influential course to date. I was learning fundamental proofs that lay the groundwork for the bulk of mathematical theories in the modern world. The course completely destroyed my pre-conceived notions of Mathematics as being a boring subject that had no application to the real world. I was finally beginning to understand the beauty behind the language.

I have a particular interest in what makes Mathematics Mathematics. Before coming to New York University, I had always dealt with calculus problems without completely understanding why I was following a certain computational procedure to arrive at a certain answer. I became interested in analyzing theoretical proof classes after comparing them to computational classes; they intrigue me more.

The bulk of my study will consist of mathematical proof classes taken in the College of Arts and Sciences, but because I am exploring the creative side of Mathematics, I have plans to link some interdisciplinary seminars and Philosophy classes to my research on Mathematical Creation. This semester, I am taking a tutorial on Creativity and Combinatorics class. The Combinatorics class will act as a precursor to more difficult proof-based classes such as analysis and abstract algebra: it will acquaint me with the nature of proofs that will then serve to help me in more advanced classes.

My final two semesters at New York University will consist of the remaining eight Mathematics classes needed for my concentration. In the Fall 2015 semester, I will be taking Honors Analysis I, Honors Algebra I, Theory of Probability and a graduate level course in Scientific Computing. In the Spring 2016 semester, I will be taking Honors Analysis II, Honors Algebra II, Mathematical Statistics and Topology.

The genesis of Mathematical Creation, according to French mathematician Henri Poincare, is the activity in which the human mind seems to take least from the outside world, in which it acts or seems to act only of itself and only on itself. By studying this procedure, we might be able to identify what is most essential in human thinking. Mathematical Creation is not a mechanical process but rather a process of human choice based on elegance and aesthetics. My rationale for studying the aesthetics of Mathematics is to identify and draw an obvious correlation between the conscious and the unconscious parts of the mind. I hope that one day I will be given the opportunity to conduct such research on a graduate level.

Career wise, I hope that my understanding of Mathematical Creation helps me to better model thinking in Machine Learning and Artificial Intelligence. The conscious mind contributes to the process of logical thinking, which is what the unconscious in incapable of doing. Both, however, are essential requirements for Mathematical Creation, enabling advancements in several different subfields of Mathematics.