

1. Name (first and last)

Text Response

Eunji Kim

Statistic

	Value
Total Responses	1

2. Email

Text Response

emilykim721@gmail.com

Statistic

	Value
Total Responses	1

3. Contact Phone

Text Response

404-692-9139

Statistic

	Value
Total Responses	1

4. In Fall 2018 you will consider yourself to be a:

#	Answer	Bar	Response	%
1	VT Freshmen Undergraduate Student		0	0%
2	VT Sophomore Undergraduate Student		0	0%
3	VT Junior Undergraduate Student		0	0%
4	VT Senior Undergraduate Student		0	0%
5	Between Undergrad and Graduate school		0	0%
6	Graduate school		1	100%
	Total		1	

Statistic	Value
Min Value	6
Max Value	6
Mean	6.00
Variance	0.00
Standard Deviation	0.00
Total Responses	1

5. What degree(s) and major(s) are you pursuing along with institution?

Text Response
Ph.D

Statistic	Value
Total Responses	1

6. List any Minors you are pursuing.

Text Response

Statistic

Total Responses

Value

0

7. List any honors and/or awards received:

Text Response

Research Fellow of Korea Advanced Institute of Science and Technology Nonproliferation Education and Research Center (KAIST-NEREC) (2015) Graduate Research Scholarship for Humanities and Social Sciences of Korea Student Aid Foundation (2014) Graduate Research Scholarship for Humanities and Social Sciences of Korea Student Aid Foundation (2013) Academic Scholarship of SungKyunKwan University (2008) Semester Honor Scholarship of SungKyunKwan University (August 2004, March 2005, March 2007)

Statistic

Total Responses

Value

1

8. Currently we have 1 program accepting applications which includes:

#	Answer		Total Responses
15	Data Science for the Public Good	0	0
	Total	0	-

Statistic

Data Science for the Public Good

Min Value

-

Max Value

-

Mean

0.00

Variance

0.00

Standard Deviation

0.00

Total Responses

-

9. Essay (up to 500 words): "What do you want to get out of this experience?"

Text Response

I believe data science can provide theories in international relations with stronger evidence. As a social science student, I have dedicated myself to understand philosophical and theoretical explanations about international relations. Because the international system consists of diverse lower level interactions among individuals or groups, it is hard to capture how the system works with a couple of variables. In order to overcome the barriers, international relations studies are now expanding their boundaries by collecting more data. More and more researches in international relations now provide empirical evidence with regression analysis and case studies. These tools give power to the studies, but limitations still exist due to the small number of cases and limited access to data sets. Because there are only 195 countries in the world, it is hard to find strong patterns in the data. In addition, secrecy of some sensitive data makes things worse lowering the accessibility to the data. I believe these problems can be solved by expanding the types of data. In many regression analysis in international relations field, researchers prefer to use state level data sets such as poverty rate provided by the CIA Fact book or R&D budgets provided by the OECD. However, these data sets have too many missing values, and sometimes the missing points are critical to draw a conclusion from the data. Development in data science makes it possible to access more specific and accurate data now by using data sets in the domestic level. For example, when studying inequality, we can use income gap, cell phone use rate, or energy consumption differences instead of the Gini coefficient. That is why I hope to join the DSPG and work in diverse project teams. I have tried to get knowledge and experience in data science field. I have taken statistics and programming courses and participated in several research projects using quantitative research methods. However, most of the experiences were limited to applying regression models to state level data sets. I expect working in community-based research projects in the DSPG would give me a chance to experience of using different data sets. In addition, working with people from multi disciplines will help me to understand the complexity in the international system. Diversifying expertise is critical not only for data science but also for international relations research. Given the complexity in international system, views from multi disciplines can help to see international phenomenon in various perspectives and help to pursue diverse approaches in analyzing international issues. I hope my social science background in international relations field also can contribute to enhancing diversity in the DSPG community.

Statistic	Value
Total Responses	1

10. Essay (up to 500 words): "Please describe any previous research experience and/or work experience you may have."

Text Response

I am working on the Communities Who Know (CWK) Data project with Dr. Jacqueline Royster at Georgia Tech. The goal of this project is to find networks among African American women in the late 19th century based on publication activities. We use text analysis to view the networks presented in the African American women's journal, Women's Era. The late 19th century was the time of many human rights activities including African American women's political and social activities. As the first U.S. newspaper published by and for African American women, the journal provides evidence of African American women's society at that time. At the first phase of the project, we used several network analysis tools including VOS Viewer and Gephi to find out the relationships among the keywords found by R word cloud analysis. The network tools visualize the relationships among the keywords based on the scores from the adjacency. Also, this project includes GIS analysis based on authors' locations. Although this project is in its initial phase, we found an interesting fact that more words were clustered by 'men' rather than 'women.' We assume that this result shows the infancy in female human rights activities at that time and high dependency on supports from spouses of female authors. Because only a handful of people are engaging in this study, I am trying to be more active and rigorous. I have tried to use as many as text analysis tools in order to compare the results from the different tools, and tried to understand the logic behind the results by using developers' explanations in open source programs. I believe this active and enthusiastic engagement in this project will help me to have concrete experience in text analysis. I want to share another research project experience. After earning my MA degree, I had worked at the Korean Institute of Science and Technology Evaluation and Planning (KISTEP). Working as a researcher in military R&D budget department, I engaged in both quantitative and qualitative researches to evaluate the efficiency level of South Korea's military R&D budget. In quantitative research, our team divided the R&D budget into three categories to evaluate the separate impact of budget size and fiscal categories on the technology and weapon development. With a panel data from government officials, we could test a hypothesis from the data analysis. After reviewed by the higher government institute, the result could be reflected in the South Korea's 2017 military R&D budget planning.

Statistic	Value
Total Responses	1

11. Essay (up to 500 words): "Please describe your background (courses taken, research projects, etc.) in statistics and mathematics."

Text Response

I double majored in political science and economics during my BA degree. Even though my concentration was international trade, I took all the basic economic courses including economic principles, micro- and macroeconomics, and finance theory. This set of economic courses provided me with knowledge about probabilities and basic game theories. I have taken research method classes during both MA and Ph.D. degrees. In the Research Method in International Relations class during my MA, I learned basic Bayesian Statistics in order to formulate an appropriate hypothesis explaining complexity of international interactions. The main purpose of the class was to complete a research proposal using concepts in the Bayesian Statistics including Bayes Theorem, prior and posterior distribution. In order to draw meaningful information from the data we had, many of the class sessions were focused on understanding data structure, causal relationship among variables and solving the problem of counterfactual under international settings. In the Empirical Research Method class taken at the first semester of Ph.D. study, I revisited the counterfactual problem again. The class focused on regression analysis. Starting from linear regression models to logit and probit models, I could learn about various regression models. Because the course covered the programs such as R and STATA as well as the probabilities or mathematical explanations about causal relations, I could have opportunities to expand my understandings on regression analysis. In this semester, I am taking a course of Big Data and Public Policy. Through this course, I am expanding my understanding on data analytics. Because this course provides various experiences with big data from programming using python to machine learning skills, I am expecting I can get higher understanding on data science at the end of this semester. In addition, considering that the final goal of this course is to completing a research proposal using big data, it will allow me to train in forging an appropriate hypothesis, finding accessible and relevant data sets, and test the hypothesis using the finding from the data. I have been trying to be equipped with knowledge and skills that I need to deal with data. I hope my course taking in statistics and mathematics can present my consistent interests and efforts in data science field. As an active and enthusiastic student, I am ready to learn more knowledge in statistics and mathematics. However, I think knowledge is only one part in data analytics, because using knowledge to solve real world problems requires a lot more efforts including continuous practice in program usage and meticulous review of research process. I believe the group project at the DSPG will help me to have advanced experience in data analytics by providing a precious opportunity to work with real world data to achieve a research goal.

Statistic	Value
Total Responses	1

12. Essay (up to 500 words): "Please describe your background (courses taken, research projects, etc.) in social and behavioral sciences."

Text Response

Most of my social science background is concentrated on policy evaluation and theory building. I had taken several theory-related and policy evaluation courses such as Seminar in the Theory of International Politics (MA), International Relations Theory (Ph.D.), American Foreign Policy (Ph.D.). I had worked together with my MA thesis advisor in many government research projects about South Korea's policy evaluation and forecasting. In the "Assessment of Three-Years under the Kim Jong Un Regime Project," my job was to analyze survey data on South Koreans' threat perception toward the Kim Jong Un regime. The survey was designed to compare opinions from generations to generations among South Korean citizens. I joined the work of designing questionnaires with a survey company, and reviewed survey results to draw policy implications. In the "Theory and Practice for the 21th Century Middle Power Diplomacy in Network Theory Project," I collected the data for network analysis in the North Korean journals, Rodong Sinmun and Chosun Tongsin. I participated in the data collecting part to make a data set about the journal articles from 1998 to 2002 in order to compare the impact of leadership change in North Korea. The research result showed higher numbers in aggressive word clusters under the Kim Jong Un regime than under his predecessor Kim Jong Il regime. The other concentration of theory building was about exploring a new international theory that can explain relationships among medium- or small-sized countries. The project started with a demand on a new theory that can provide more appropriate explanation on foreign relations of less powerful countries, because many of the international theories focus on explaining relationships among Western great powers such as the U.S., Russia and European countries. It was a transnational project with researchers from Japan, China and Malaysia. The project was not about quantitative methods, because the goal of the project was to provide philosophical basis for the future study not to provide empirical evidence among variables. It is easy to think that data science is not about philosophy or theory. However, I believe philosophy or theory play an important role in data analysis in order to get a good research design and to interpret the research results. Data science is a good way to observe people's different behaviors under different situations. However, we need philosophical and theoretical approaches to make correlation into causal inference, because philosophy or theory can provide various explanations about human nature and people's choice. The theory-building project allowed me to study many philosophical references from Western classics such as Plato and Aristotle to Asian philosophical basis such as Buddhism and Confucianism. I believe this experience would help me to view an event with different thoughts and make set more reasonable hypothesis that can describe the world better. I hope I can contribute to the DSPG projects by diversifying opinions and enhancing the chances to have more creative views.

Statistic	Value
Total Responses	1

13. Essay (up to 500 words): "Please describe your background in programming."

Text Response

It is hard to say that I have strong skills in programming, because I began to study Python last winter. However, I have strong motivations in learning programming languages and actively find ways to get knowledge in the field. After reading some introductory materials on the program, I started to take a Coursera lecture from January. I am taking the course from the University of Michigan, named Python for Everyone. Like many other data science communities, there is a forum for the course takers in the course website, where members can share ideas and help each other to find errors. We can share our ideas there not only about codes or errors but also about the project we are engaging now. Reading articles about other classmates' projects allows me to understand how I can use the program to find an answer to my research question. From the course I have learned how to write an expression and how to use functions so far. Even though my knowledge about the programming is at the beginning stage now, I expect I can get accustomed to the program until the end of the semester. Also, the big data class exercises make me have more opportunities to learn about the program. Because there are practical exercises using Python and databases such as Azure, IBM Watson or Google Cloud in the big data course, I expect I can have chances to learn more about the data analysis using the program.

Statistic	Value
Total Responses	1

14. Essay (up to 500 words): "Please provide information about other significant courses you have taken within your field of study."

Text Response

I have taken several courses about inter-Korean relations such as Seminar in North Korea, Studies in North-South Korean Relations, Studies in Korean Diplomatic History. Inter-Korean relationship study provides policy implications for both international and domestic relations. Considering that North Korea has an authoritarian regime, studying South Korea's diplomacy can explain the policy choice of a democratic country, which is adjacent to an authoritarian regime. In addition, studying North Korean society can help understand the impact of poverty, media censorship, and inequality. Many people think that North Korea is a unique sample, and it is hard to apply research results from North Korean cases to other cases. However, North Korea has many things in common with other countries experiencing poverty, corruption, high political control or inequality. Many North Koreans defect their country like many Syrian refugees. About 30 to 40% of Pyongyang citizens monopolize information by possessing mobile phones and use the information as a means to control the rest of the population like in many African countries. And, STEM education is encouraged by policy and individual motivations like in the U.S. I believe understanding North Korea and inter-Korean relationships can broaden the view in certain public policy areas. For example, some variables found in North Korean cases can provide additional factors that can explain poverty or inequality. Or, South Korea's policy toward North Korean defectors can provide policy implications for immigrant problems. It is my sincere hope to join the DSPG to share my knowledge in social science. I hope my background in policy, theory, and inter-Korean issues help to add diversity in the program and provide different views on public policy issues.

Statistic	Value
Total Responses	1

15. Please list the name and contact information for 2 references (teachers, mentors, or employers) that we will contact for a letter of reference/brief survey. Please make sure you list the correct email and they know we will be contacting them soon (within the next week). Only 2 references will be contacted; do not list more than 2.

Text Response

Dr. Omar Isaac Asensio asensio@pubpolicy.gatech.edu Dr. Anjali Bohlken anjali.bohlken@inta.gatech.edu

Statistic	Value
Total Responses	1