

The background image is a photograph of a city park. In the foreground, there is a paved walkway with some fallen leaves. A low concrete wall runs across the middle ground. Behind the wall, there are several trees with vibrant autumn foliage in shades of orange, red, and yellow. In the background, several tall city skyscrapers are visible against a cloudy sky. The overall scene is a mix of nature and urban architecture.

The DePaul University International Studies Quarterly Newsletter

# INTERRUPTED SILENCE

ACTIVELY ENGAGED INTELLECTUALS,  
INTELLECTUALLY ENGAGED ACTIVISTS

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## Letter From The Editors

We are once again in full swing for this academic year! Welcome to all of the new undergraduates and graduates. We are thrilled to have you join our INT family. We are also very excited to get to know the new students and to continue our special bonds with the friends we have already made. With that being said, we have been having a great turnout for our weekly INTuesday events. INT is more than just reading, writing, and studying - the real experience comes with connecting and integrating with the unique, ambitious, and driven students of this department. Therefore, we are excited to further spend time with students over films, food, and other fun activities. If you have any suggestions on what to do during the Winter Quarter, do not hesitate to contact your student representatives, Izabela Kantor and Rifqa Falaneh! On another note: Winter is coming! Let's finish this quarter off with a bang and come back in January stronger than ever. We wish you luck on finals, and happy holidays!

# Meet Your Student Support Staff

## Christian Borkey

Christian will serve as the student assistant for the 2018-2019 school year, working alongside the INT staff and faculty.



My name is Christian Borkey and I am the new student assistant. You might see me when you walk into the department office, as I am the front desk receptionist. I'm majoring in Chinese Studies and International Studies. I really like the taste of spaghetti but hate the

texture of angel hair. I like working at the desk because I get to see new people. In addition to my role for the International Studies Department, I am also the leader of Springboard Theater Company, DePaul Improv and Sketch Comedy. I am the entertainment coordinator for DemonTHON and I will indeed produce your show if I think it's good.



# Abigail Raney

Abigail will serve as the graduate assistant and graduate representative for the 2018-2019 school year.



Hello! My name is Abigail Raney and I am the Graduate Assistant and Graduate Representative for this year! I am in the first year of my graduate studies and I plan to write my thesis on the social construction of terrorism. Originally from Minneapolis, I decided to

move up to Winnipeg, Canada for my undergraduate studies. I received a B.A. in Political Science and History from the University of Manitoba in 2015. In 2012, I travelled with International Student Volunteers to New Zealand and aided in the environmental preservation of Auckland's regional parks. I also had the opportunity to study abroad in Hong Kong during the fall of 2014 and was able to observe the Umbrella Movement unfold from start to finish. Traveling is definitely my favorite thing to do – there's no better way to learn about the world! Otherwise, I like to spend my time reading, cooking, watching baseball and playing with my cat, Buddha.

I'm very excited to get to know everyone and be a part of this amazing community!

# Sarah Risheq

Sarah Risheq will serve as the student tutor for the 2018-2019 school year.



Hello, I'm Sarah! I'm a queer Palestinian Syrian student & organizer around Chicago. I love how INT challenges me to learn more about the world we live in in an interdisciplinary way. The different perspectives we learn about are exciting because you start making sense of the world and the sociopolitical structures we

navigate daily. I look forward to meeting students that are questioning these structures and wonder how to navigate it. I'm excited to work and converse around their own curiosities! I try to keep a safer space during my tutoring sessions, to let the student know they are welcome to come with their whole genuine self. Whatever material you have or want to have, I'm here for all those questions. I hope we can all cultivate a creative learning process where we can see what works best for you and work with that!

# Alumni Spotlight

As of September 2018, Ishma (Graduate student, class of 2018) has been working with the United Nations in New York, New York. Specifically, she works under UN Women, a UN organization that is dedicated to gender equality and the empowerment of women. UN Women works with UN Member States to design laws, policies, programs, and services that ensure aid to women.



**Ishma Iqbal, 2018**  
UN Women, New York



Pictured: Ishma at a General Assembly meeting.

Recently, Ishma's role has been to attend the UN sessions that occurred during the General Assembly and take notes about different Heads of States' positions regarding women's issues. She also notes their work and/or contributions to women's rights back to UN Women.



# FAREWELL, MALLORY!

**Mallory Warner served as the Assistant Director of Academic Advising in the International Studies Department at DePaul University. Mallory has been at DePaul University for 10 years. As Mallory prepares to leave DePaul University and begins her new position soon, we asked her to offer some words of guidance. Here is her message to the INT Department. We thank Mallory for all that she has done for the INT Department and Students. We wish her luck on her endeavors.**

It's hard to believe I will be leaving the International Studies Department after 10 years. I came to DePaul when I was a green 22-year-old graduate student, excited to be moving to the big city. By stroke of luck, I was hired as the first graduate student worker in the department and started working in the office the month before I began classes that autumn. It feels like the rest is history.

I have dedicated the last decade to advocating for our students, our curriculum, and the work we do in our major. I have been so lucky to find a career that supported my personal passions and helped foster students in finding their own. The job was challenging: college is difficult and expensive, and life is complicated. The lowest points were when I felt helpless in getting a student over their academic or personal hurdles. It was most rewarding



when students who had struggled made it across that graduation stage. My favorite part of the job was cheering from the audience at commencement.

I am sad to be leaving behind the department and my INT family, but I carry with me all the good work we have done together over the years. My advice to all of you for the future is to reflect, get to know yourself, and don't be afraid to make a few mistakes figuring it out along the way. These are some of the most exciting but also anxious times of your lives. I have faith in all of you that you can do this!

If ever you want to chat or geek out over Foucault or France, I will always be around. I wish you all the best.

*- Mallory*



# *Student Talents:*

## *Poetry*

### "Vices by the Sea"

On what day do you leave my fantasy?  
I wait for the sunshine to distract me  
Do you know you are my athanasy?  
The light in the lake and my heart agree

I spend each day in my water-filled dreams  
This dream is a killer, you're in each wave  
You know the way you force away the seams  
And make the ripples start to misbehave.

I pray from the sand that you will reappear  
And build me another loose foundation  
But I don't feel you have, the coast is unclear  
You've excluded me from your rotation.

Waiting for you is my most toxic vice  
Because you've only seen the ocean twice.

Izabella Jablonska



# Establishing Japan's Social Robotics Industry: State Subsidies and Corporate Endeavors in the Business of Replacing Human Labor

**Anna Rose McGoldrick**

## Introduction

In the 1970s, Japan's Waseda University began investing in the research and development of humanoid robotics. By 1997, the private university had created a series of interactive humanoid robots under project WABOT, whose success led Waseda to establish the nation's first institute solely dedicated to humanoid research (Kusuda 2002). Not long after the university's early ventures, the Japanese state began its first major humanoid project in 1998, when it provided 5 billion Japanese yen (JPY) to the Ministry of Economy, Trade, and Industry (METI) to spearhead private-public partnership for the production of social robotics. METI assembled twelve companies, eleven universities, the National Institute of Advanced Industrial Science and Technology (AIST), and the New Energy and Industrial Technology Development Organization (NEDO) to collaborate on the project. METI's project culminated in the creation of the HRP-2 humanoid robot and software, which METI then made accessible to humanoid researchers. In 2001, METI and Waseda University shared their respective inventions and research at the international conference Humanoid 2001, held for the first time at Waseda University's new Humanoid Research Institute. Along with presenting over sixty papers on humanoid research, participants highlighted the need for practical humanoid applications. Japanese companies and institutes would have ample opportunity for discovering such applications in the form of solutions to the country's decreasing labor force.

By 2025, 30% of the Japanese population will be older than 65 (Iida 2013), many having acute or chronic medical needs. Falling fertility rates mean, however, that there will be far fewer persons available to assume elder care positions or to carry out many other productive functions required for a healthy national economy. Rather than utilize migrant labor from neighboring countries like the Philippines and Indonesia, Japan has remained resolute in its strict immigration policies (Van der Ween 2016). Instead, it has turned to robotics solutions through state-provided subsidies and government initiatives similar to that of METI's 1998 project, this time focusing on how to address falling fertility rates and an aging

population. It subsidized a series of METI and NEDO projects throughout the 2000s, including an 800 million JPY project for developing nursing care robotics. In 2014, Prime Minister Shinzo Abe established the Robot Revolution Initiative, a five year plan to provide robot technology for fields impacted by the workforce shortage, including the nursing care sector (Neumann 2016).

Amid government robot initiatives, Japanese companies Honda and SoftBank Group Corp. have developed their own humanoid products and technology. They have created humanoids that can care and entertain, and that can replace human labor in healthcare and business settings. My paper examines these two companies' respective objectives, histories, operations, and products, indicating how they have capitalized off Japan's xenophobic policies, dropping fertility rates, and aging population through the humanoid industry. I begin by providing a timeline of Honda's involvement in humanoid construction, which resulted in the creation of ASIMO (Advanced Step in Innovative Mobility). I discuss ASIMO's early models and respective functions, its current and intended uses, and how its success elicited statewide interest in robot technology. The next section details on Japan's Ministry of Economy, Trade, and Industry (METI), and its promotion of robotic research throughout the years. My final sections look specifically at SoftBank Group Corp. as one company that has entered the humanoid division in recent years. From Honda's early ventures in establishing humanoid technology in the 1980s, to SoftBank Corp.'s innovative design processes in producing marketable robots, two of Japan's major humanoid companies reflect the types of services individuals and businesses can expect to find in today's interactive robots and substitutions to human labor.

## ASIMO: HONDA'S ACHIEVEMENT AND GRADUAL APPLICATION OF HUMANOID TECHNOLOGY, 1980S-2000S

Honda, responsible for the world's most advanced humanoid, ASIMO, initiated its research on humanoids nearly forty years

after the company's formation. Following Honda's establishment in 1948, the company gained its reputation as a leading producer of automobiles, motorcycles, and power products. In 1960, it founded Honda R&D Co., Ltd to serve as its own site for research and development (Honda Corporate Profile 2018). Honda's foundation in automobiles rendered the company well-positioned to transition into robotics, for both industries necessitate technologies like sensors and actuators (Hara 2001). When Honda's engineers began focusing on humanoids in 1986, they envisioned a robot that could assist and work alongside individuals. Honda's engineers developed the humanoid in three stages. From 1986-1993, project leaders Masata Hirose and Kenishii Ogawa worked on the E0-E6 series of the humanoid and focused on achieving bipedal mobility. From 1993-1996, the team introduced prototypes 1, 2, and 3 (P1-P2), adding a torso and arms to the model. Additionally, they expanded the robot's range of movement to include climbing stairs, carrying objects, and maintaining stability against a physical force. P1 and P2 could also move independently, making Honda the first company to create an autonomous bipedal robot (Hirose and Ogawa 2006, 13). Following P1, P2, and P3, researchers adjusted the model's size, dexterity, and appearance to render it suitable for human environments. During the third stage, they also implemented communication and intelligence devices for human-robot interaction. In 2000, Honda unveiled the first version of the Advanced Step in Innovative Mobility humanoid, otherwise known as ASIMO (Hirose and Ogawa 2006). Since introducing ASIMO, Honda has expanded the robot's functions to grasp small objects, turn corners, jump, and run at a speed of 9 km per hour. Honda's 2011 version of ASIMO contains enhanced sensors, through which it can anticipate movement in its surroundings. The robot stands at 130 cm, weighs 48 kg, and contains 57 degrees of freedom (Ackerman 2011). While Honda continues to unveil new versions of ASIMO, the humanoid already embodies an approachable and appealing appearance. In anticipation of ASIMO's introduction to domestic spaces, Honda offers a humanoid with the appropriate height, agility, and communication functions that consumers will value in an assistive robot (Sabanovic 2010). ASIMO has yet to enter into home environments.

Throughout its development and debut of ASIMO, Honda contributed to Japan's national advances in humanoid research. In an effort to establish new platforms and software in humanoid robotics, METI initiated the Humanoid Robotics Project (HRP) from 1998-2002. Honda and eleven other corporations participated in HRP. At the start of HRP, Honda had entered its final stage of ASIMO's development.

With the help of the participating universities and companies, HRP produced comprehensive hardware (HRP-2) and software (OpenHRP), as well as twenty-three patents on humanoid robotics (Lechevalier, Ikeda, and Nishimura 2008). In addition to participating in projects implemented by the Japanese government, Honda helped Japan garner international recognition in the robotics field by participating in robot exhibitions, such as Robodex. Reed Exhibitions Japan Ltd., a trade show organizer, hosts Robodex to bring together companies and research institutes producing the latest advancements in robot technology. At Robodex2000 in Yokohama, Japan, Honda debuted ASIMO which, along with Sony's SDR-3X, gained recognition as the first exhibited robots intended for use as human assistants or companions (Hara 2001). Honda and Sony highly influenced the robotics industry for, in two years, the Robodex conference of 2002 grew to seventy thousand attendees, twenty-eight participants, and twenty robot exhibits, including the HRP-1 and HRP-2 models that resulted from METI's humanoid project. Honda's ASIMO also inspired the emergence of new robot companies and humanoid research (Kusuda 2002, 413). Since the early 2000s exhibitions, Honda has not limited its projects to ASIMO. In 2017, it released its prototype of a disaster relief humanoid, E2-DR, whose purpose does not necessitate the same quality of appearance as ASIMO. Honda's engineers pursued the E2-DR project when the Fukushima Daichii nuclear disaster prompted a call for more disaster relief robots (Ackerman 2017). Honda's E2-DR project reflects its mission to build robots that help society. The anthropomorphic prototype can grasp, lift, and transport heavy objects, yet E2-DR's career trails long behind that of ASIMO.

Through ASIMO, Honda has seized a business opportunity in Japan's diminishing labor force and call for robotic solutions. Furthermore, it has shared this vision of human-robot integration with the rest of the society by sharing ASIMO with other countries. Along with showcasing ASIMO at conferences, Honda has used it to entertain business executives and political leaders around the world (Hagiwara and Jie 2014). In 2005, Honda announced that it would situate the humanoid in professional roles, such as receptionist positions. To employ ASIMO in customer service and hospitality capacities, businesses rent the robot from Honda for 20 million JPY (166,000 USD) per year (Humanoid robot gets job 2005). While Honda also profits from displaying ASIMO at Disneyland and museums (Honda's newest ASIMO 2007), it utilizes ASIMO as both a revenue generator and marketing technique to exemplify Honda's innovative and technological achievements. Honda does not concern itself with ASIMO's



lack of immense revenue, for Honda only directed 1% of its annual research and development budget (around 50 million USD) toward robotics in 2014 (Hagiwara and Jie 2014). Until Honda can offer ASIMO as a mainstream product, the company's robotics sector will continue to comprise a minute portion of its comprehensive sales revenue, which totaled 14,000 billion JPY in the 2017 fiscal year. Robotics, included under Honda's power products and other businesses, makes up only 2.3% of that sales revenue, whereas its automobile sector comprises 72%, its motorcycle sector comprises 12.3%, and its financial services comprise 13.4% (Honda Corporate Profile 2018). Despite ASIMO's gradual integration into society and the humanoid market, the robot's warm reception at conferences and professional environments supports the materialization of Honda's original intent: to create a humanoid that eventually exists as a peaceful companion and domestic helper to humans.

#### **JAPAN'S MINISTRY OF TRADE, ECONOMY, AND INDUSTRY SUPPORTS ADVANCEMENTS IN ASSISTIVE ROBOTIC TECHNOLOGY, 1980S-PRESENT**

As Honda initiated the early stages of its humanoid project, the Japanese government began supporting the nation's own advancement in service robotics. Several Japanese ministries implemented programs for robotics research, including METI, the Ministry of Internal Affairs and Communications (MIC), and the Ministry of Education, Culture, Sports, Science and Technology (MEXT). Among the three, METI received the majority of the budget for robotics projects (Lechevalier, Ikeda, and Nishimura 2008). The Japanese government established METI in 1949 and originally labeled it the Ministry of International Trade and Industry (MITI) (History of METI n.d.). METI's early projects for the robotics sector, however, contained function-specific objectives and yielded smaller participation rates. METI's narrow-focused projects include its 1995 "Mobile Meal Delivery Robot for Aged and Disabled People" and 1991 "R&D on Micromachine Technology" (Lechevalier, Ikeda, and Nishimura 2008). As a result, few of METI's early robotics projects produced effective prototypes and software.

METI enhanced the quality of its robotics projects when it implemented its five billion JPY Humanoid Robotics Project (HRP) from 1998-2002. AIST eleven university laboratories, and twelve companies participated in the project. Through HRP, METI intended to establish new humanoid technology and business opportunities. METI divided the project into two stages. From 1998-2000, participants

focused on creating the humanoid platform and software. From 2000-2002, the organizations developed industry-specific applications for the robot's function. In HRP's second stage, METI aimed at employing the technology in security monitoring, construction, industrial vehicle operation, plant care, and human care (Kusuda 2002). METI distinguished HRP from earlier projects by organizing external committees to track the progress. METI assigned the HRP Technology Committee and HRP Research Committee to oversee the research. The committees' presence fostered trust in an environment where multiple corporations were discovering technological advancements for their own business prospects. Based on HRP's outcomes, METI gained a better understanding of how to implement subsequent projects. It continued on to initiate a 2002-2004 robot software project and a 2004-2005 project on developing practical applications for robots (Lechevalier, Ikeda, and Nishimura 2008). As METI enhanced its project execution, it also planned ways that such projects, whether humanoid-focused or not, could meet the needs of Japan's population.

Since HRP, METI has directed a lot of its focus to robotic solutions for Japan's aging population and diminishing workforce. In the latter half of the twentieth century, Japanese women began having fewer children, and 2015 marked an average of 1.2 children per woman. Furthermore, in 2014, the World Health Organization reported that Japanese individuals have the highest life expectancy in the world. Japan's high life expectancy, coupled with its decreasing fertility rates, contributes to the fact that Japanese citizens aged 65 and older currently comprise a quarter of the population – around 32 million people (Van der Ween 2015). Moreover, whereas Japan's population at the working age totaled 87 million in 1995, it is expected to decrease to 45 million by 2065 (Robots helping Japan 2017). As a result, elder care facilities and domestic settings lack assistance in caring for the elderly. Japan has consulted the robotics community for solutions to its labor issues. In 2013, METI provided subsidies for 24 companies, which are to be used by each company to pay for at least half of the funds required to develop nursing care robot parts (Iida 2013). In 2014, Prime Minister Shinzo Abe further announced the Robot Revolution Initiative to implement robot solutions in different sectors while simultaneously aiding the growth of Japan's robot industry itself. As a result, METI's

Contributions to humanoid development in the late twentieth century transitioned into the government's support of other projects that respond to Japan's most pressing concerns by prioritizing robot technology.

#### **SOFTBANK GROUP CORP. ENTERS THE ROBOTICS SECTOR AND COLLABORATES WITH ALDEBARAN, 1981-2015**

Since the release of Honda's ASIMO in the early 2000s, a variety of Japanese companies have entered the service robot and humanoid sector. One such company is SoftBank Group Corp. – a conglomerate multinational company based in Tokyo, Japan. In collaboration with French company Aldebaran, it unveiled the humanoid Pepper in 2014. In conjunction with Pepper's completion, it established SoftBank Robotics. Masayoshi Son founded the original SoftBank Corp. in 1981. To start his company, Son used the one million USD he earned from selling his handheld organizer patent to Sharp Wizard. SoftBank Group Corp. began by specializing in software distribution, and it later expanded to investing in publishing, internet, computer programming, and telecommunications companies (SoftBank Group Corp. n.d.). Over the next thirty years, it grew as a major holding company and established operations in Europe, the U.S., and other parts of Asia. As of 2017, SoftBank Group Corp. represents seventy-thousand employees and two hundred thousand shareholders (Mergent Online 2017).

While telecommunication and internet services comprise the majority of SoftBank Group Corp.'s business activities, it has established itself as a major player in the humanoid robotics market within the past decade. Its involvement in humanoid development began in 2011, when founder and CEO Masayoshi Son sought to extend his business into the robotics sector. While vetting the world's top robotics firms, Son discovered Aldebaran in Paris, France. When SoftBank Group Corp. approached Aldebaran in 2011, the French company had been operating for six years and had already released its first robot, Nao. The 58 cm. humanoid, still in existence, contains twenty-five degrees of freedom and sensors that allow him to perceive and respond to his environment. Since its release in 2006, nearly ten thousand Nao robots operate in schools and businesses (Robots: Nao n.d.). During Son's meeting with Aldebaran CEO Bruno Maisonnier in 2011, he received a demonstration of the robot. Nao's interactive functions appealed to Son's vision of creating communicative and emotional robots. As a result, in 2012, SoftBank became a major stakeholder in Aldebaran. The two companies entered into a collaboration on a customizable robot that could interpret emotion. SoftBank

Group Corp. provided Aldebaran three months to develop the first prototype. In 2014, the two announced the completion of their humanoid robot, Pepper. The following year, they released Pepper for sale (Guizzo 2015).

#### **SOFTBANK GROUP CORP. ESTABLISHES SOFTBANK ROBOTICS, 2012-2015**

After Masayoshi Son met with Bruno Maisonnier in 2012, SoftBank Group Corp. and Aldebaran entered into an evolving partnership that resulted in the creation of SoftBank Robotics. Throughout Pepper's development from 2012-2014, SoftBank Group Corp. funded the humanoid project, yet Aldebaran undertook the majority of development operations in Paris, France. CEO Maisonnier led the project and regularly updated Masayoshi Son (Guizzo 2015). Furthermore, Aldebaran's other projects, including a new generation of Nao robots, remained under the jurisdiction of the French company during the two-year period. Immediately following Pepper's completion in the summer of 2014, however, SoftBank Group Corp. established SoftBank Robotics. SoftBank Robotics became the owner of Aldebaran, taking on additional projects on which the two companies had previously collaborated, as well as supporting other robotics ventures that Aldebaran had already begun. Accordingly, Bruno Maisonnier stepped down as CEO of Aldebaran and transitioned into Special Adviser to Masoyoshi Son and the newly instituted SoftBank Robotics. Fumihide Tomizawa assumed the role of SoftBank Robotics' CEO. SoftBank Robotics consists of four hundred fifty employees, and it has teams in Japan, France, China, and the US (SoftBank Corp. 2015a). SoftBank Robotics' board and project leaders consists of individuals who previously worked for SoftBank Group in another capacity, as well as individuals who comprised Aldebaran's original team in 2006.

While SoftBank Robotics began as a transnational company, investors outside of Japan have also contributed to its multinational reputation. In 2015, China's Alibaba and Taiwan's Foxconn each invested 14.5 billion JPY (36 million USD) into SoftBank Robotics. As a result, Alibaba and Foxconn equally own forty percent of the company. By collaborating with one another, the three companies aim to establish SoftBank Robotics as the top robotics company in the world. Alibaba is one of the largest mobile commerce companies and supports



SoftBank Robotics' marketing needs. Foxconn meets SoftBank Robotics' manufacturing needs (SoftBank Corp. 2015b). In expanding its business and investor relations outside France and Japan, SoftBank Robotics seeks to propel its products into the global market.

### **SOFTBANK ROBOTICS RELEASES PEPPER AND INVITES OUTSIDE DEVELOPERS INTO BUSINESS, 2015-PRESENT**

SoftBank has capitalized off Japan's shrinking labor force and strict immigration laws by creating a robot that can replace humans in a variety of positions, ranging from cashier to healthcare services. Following SoftBank Group Corp.'s investment into Aldebaran in 2012, the two envisioned building a larger and more advanced version of Nao that could interact in domestic, business, and caretaker environments. Two years later, SoftBank Corp. and Aldebaran exhibited their humanoid, Pepper. When SoftBank Robotics released the initial one thousand units in June of 2015, the company sold out within one minute. SoftBank Robotics sold Pepper at a price of 198,000 JPY (1,650 USD) (Ranger 2015). SoftBank Robotics markets Pepper to individuals and businesses alike, and Pepper is the first humanoid to enter into Japanese homes as a companion and assistant (Robots: Pepper n.d.). As of 2016, SoftBank Robotics has sold around ten thousand units of Pepper to over seven hundred different businesses (Romeo 2016). Although Pepper does not possess bipedal mobility, it contains three wheels and can move at 3 km per hour. Pepper also contains four microphones for hearing and speaking, three cameras, twenty engines, wireless connectivity, and a twelve-hour lithium-ion battery. Additionally, Pepper has twenty-five sensors for perceiving its surroundings (Robots: Pepper n.d.). By equipping the robot with sensors, SoftBank Robotics made Pepper the first humanoid able to interpret and display emotion. As a result of Pepper's functions, SoftBank Robotics has labeled it an emotional robot (Ranger 2015).

In developing Pepper, SoftBank Robotics designed a customizable robot that could function in various professional settings. Over one hundred forty SoftBank Mobile stores and one thousand Nescafe stores in Japan employ Pepper as a greeter, yet its customizable features render it capable of assuming other capacities too (Robots: Pepper n.d.). To maximize the robot's potential, SoftBank Robotics created a platform to which its own team, along with outside application developers, could attach function-specific software. SoftBank Robotics' decision to allow outside application developers generated public interest even before Pepper's release, for six hundred

individuals preordered the robot when the company disclosed the feature in September of 2014 (Guizzo 2015). Following Pepper's release in 2015, SoftBank Robotics Corp. then launched the Pepper Partnership Program, specifically aimed towards developers seeking to market their applications to businesses. The program trains, supports, and certifies three partners: robot application developers, robot-user interaction designers, and consultants introducing the robot to businesses. In conjunction with the program launch, SoftBank announced its Robot App Lab to pair Pepper consumers with robot app developers (SoftBank Robotics Corp. 2015). As a result of the Pepper Partnership Program, companies like Mastercard have created applications that allow Pepper to make credit card transactions. Consequently, Mastercard has successfully marketed its application to Pizza Hut Restaurants Asia, in which customers can order and pay through Pepper (Romeo 2016). Entertainment companies have also taken advantage of designing software for Pepper. Yoshimoto Kogyo, a Japanese conglomerate known for its comedic entertainment, established a robotics laboratory solely for creating Pepper applications. Toshinari Nakano, originally a sketch writer for the company, led a team of three developers to create software that allows Pepper to dance and act for audiences (Ito 2014). The Yoshimoto Robotics Laboratory amplifies Pepper's interactive functions to create an entertaining product for businesses and individuals alike. By encouraging exterior software developers to partake in the humanoid's development, SoftBank Robotics expands its consumer base and stimulates advancement in robot software technology.

Apart from business settings, hospitals and elder care facilities have positioned Pepper as a companion to patients. Researchers from the University of Tsukuba's Intelligent Interaction Department, for example, conducted a study on the use of Pepper to motivate elder care patients in physical exercises. Eight patients at a hospital in Japan's Ibaraki Prefecture participated in the study. The experiment consisted of Pepper providing verbal feedback while walking alongside the individuals throughout the facility. The project leaders found that the patients felt comfortable beside the humanoid, due to its friendly behavior and verbal encouragement. Among the features Pepper requires improvement in, researchers recommended advancing its technology for grasping objects and enhancing its cameras for tracking patient progress. The given model met many of the care facility's needs, but adding more degrees of freedom would better equip Pepper for caring in domestic spaces

(Piezzo and Suzuki 2017). The researchers' findings also reflect the need for more software focused on the elder care sectors. SoftBank Robotics itself seeks to intensify Pepper's presence in the care sector. In an effort to employ Pepper in more capacities, the company holds software contests. One of the winning teams created an application that allows the humanoid to verbally communicate with dementia patients and reminds them to take medication (Neumann 2016). SoftBank Robotics will continue to improve Pepper's software for all capacities, including the nursing care sector.

In addition to supporting external software developers, SoftBank Robotics demonstrates the significance of business partnerships through its collaboration with cloud service providers and other robotics companies. Cloud systems store data independent of the hardware, and companies offering the cloud have targeted the robotics industry. Humanoid companies especially benefit from cloud services, because it allows their robots to remotely store speech recognition software and other data necessary for human-robot interaction. In employing cloud services, robot companies decrease spending and production times. Moreover, cloud services ease the hardware development process, because the robot companies do not need to pre-program the robot's every function. In the case of SoftBank Robotics, the company installed Pepper with a cloud robotics system from Cocoro. Pepper's twenty-five sensors receive data, transfer the stimuli to the Cocoro cloud, and the cloud software instructs the robot on how to respond. The collaboration between SoftBank Robotics and Cocoro was well-suited, for SoftBank Group Corp. also owns Cocoro. In 2016, Softbank further announced a cloud robotics partnership with Microsoft. The two companies plan to combine Pepper's platform with Microsoft's 'Azure' cloud service to develop a new set of robots that contain a cloud function, specifically intended for retail businesses. The corporations will create robots that access the cloud containing a store's merchandise information. Using the cloud, the humanoid will then give customers specific recommendations based on interpreting the individuals' in-person demeanors and purchase histories (Bogue 2017). Microsoft and SoftBank Robotics will thus market the new set of humanoids to retailers. In 2016, SoftBank Robotics also announced its collaboration with Honda. Honda and SoftBank Robotics will respectively utilize ASIMO and Pepper to improve their robotic systems' communication features (Romeo 2016). By engaging application developers in Pepper's development, combining cloud systems with robotics, and collaborating with outside robotics and

software companies, SoftBank Robotics maximizes its business opportunities and growth in the humanoid sector.

## CONCLUSION

Through their respective humanoid operations, SoftBank Group Corp. and Honda have established themselves as highly competitive and transnational actors in the robotics industry. For a humanoid as advanced as ASIMO, widespread use of the robot will be dependent on its affordability and the types of roles it can fulfill. At the same time, SoftBank Group Corp. entered the humanoid industry much later than Honda, yet it has already succeeded in situating Pepper in Japanese homes and workplace environments at a low cost and with a variety of potential faculties. Its success indicates the importance of collaboration among robot and software companies in creating customizable features and identifying practical applications. Both companies' ability to incorporate evolving technology into affordable and practical humanoids will prove instrumental in determining their continued success. As multinational conglomerates, Honda and SoftBank demonstrate the importance of conducting domestic and foreign business operations as a means of garnering international respect prior to entering the global market.

Honda and SoftBank reflect Japan's leadership in the private sector of humanoid robotics, yet the state itself heavily contributed to technological breakthroughs in humanoid research. It funded early efforts, such as METI's Humanoid Robotics Project to allow research institutes, universities, and companies to collectively discover new robotics-related technology and apply them to their individual ventures. In more recent years, the Japanese government, under the direction of Prime Minister Abe, has implemented subsidized programs for developing and integrating robotics into sectors lacking an adequate labor supply, such as the nursing sector.

The robotics industry stood at 1.6 trillion JPY in 2015, yet METI predicts it to grow to 2.85 trillion JPY by 2020 (Van der Weeen 2015). State subsidies have aided Japan's own growth in the industry, and companies have responded to the call for robotics solutions. At the same time, these companies have profited from Japan's restrictive immigration policies and diminishing family sizes. They have replaced human labor with robots and removed human involvement from caretaking, reducing it to a mere function of a humanoid. As the humanoid industry accelerates, the world can look towards Japanese companies and government policies for understanding the future of humanoid technology, its integration into society, and the population issues that drive this industry.



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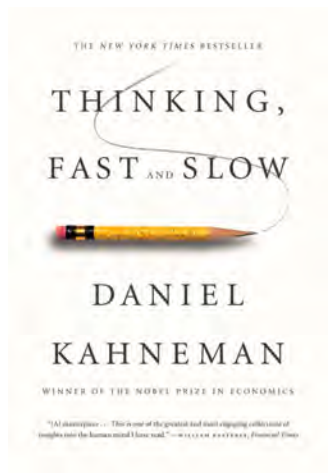
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# Good Reads Corner

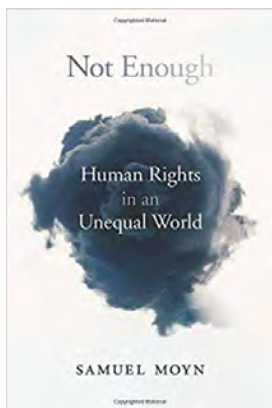
Recommended reading for the winter intersession



*Race and America's  
Long War*  
by Nikhil Pal Singh



*Thinking, Fast and Slow*  
by Daniel Kahneman



*Not Enough Human Rights in  
an Unequal World*  
by Samuel Moyn



*The Hate U Give*  
By Angie Thomas

# Student Internship Spotlight

## The Federal Reserve Bank of Chicago

Marzena Mistarz



The Federal Reserve Bank Building in Chicago

In the summer of 2018, I worked at the Federal Reserve Bank of Chicago as a Public Affairs Intern. The Chicago Fed Internship Program is a 12-week opportunity designed for undergraduate students to undertake project-oriented assignments, participate in Bank-sponsored intern events and explore one of the many departments within a Federal Reserve Bank. My main assignment for the summer was unique compared to the majority of interns in the program. I was tasked with building a conversational AI chat bot for the public website which had, at the time, never been attempted at the Chicago Fed. How did I begin tackling this complex assignment? I played with bots. I studied patterns in their language structures and analyzed their personalities. But before I could begin crafting dialogue and conversation flows between our users and a Fed bot, I had to identify what kinds of audiences visited our website, understand what content appealed to them and, most importantly, predict how individuals might interact within the bot interface to extract their desired information. Aside from my daily bot work, my second main project entailed redesigning the education section on

ChicagoFed.org. As opposed to its former content-driven layout, the new education section is audience-centric and features more than fifty resources tailored to bankers, consumers, educators and students. The pages are currently live on the website and will be a long-lasting reminder of my small contribution to this prominent institution. My internship at the Fed was both a rewarding educational experience and my first taste of full-time work. When I started, I never imagined I would have the necessary skills required to program a chat bot nor experiment with web design being an International Studies and Economics student, though that's exactly what I did. Despite not having formal technology or web experience, I excelled with these projects because they demanded strong analytical and writing skills. For any International Studies student currently exploring different career options, take my advice: don't limit yourself. There will always be a high demand in the workplace for leaders with strong communication, writing and critical thinking skills. If I can build a chat bot, so can you.



Marzena holding up her welcome certificate from the Fed.



# Study Abroad in Leuven, Belgium

Ian Teunissen van Manen

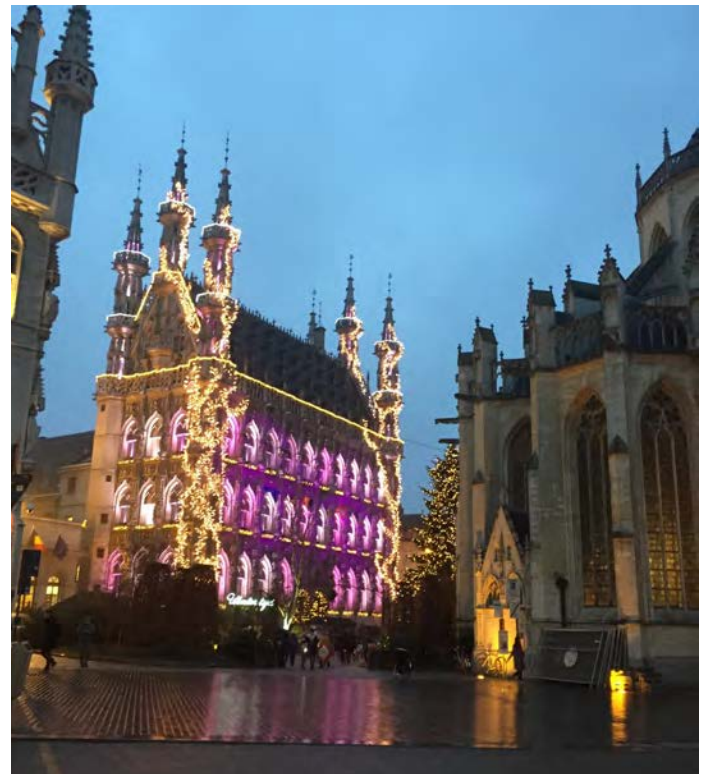
Allow me to begin my saying that if you are thinking about studying abroad, do it. Likewise, if you are not currently thinking about studying abroad, start thinking about it. Studying abroad is quite possibly the most valuable, influential experience that you can have in your collegiate career. So, do yourself a favor, explore study abroad options, and let me tell you about my experience abroad!

Choosing a study abroad program was difficult- there are so many options! DePaul alone has dozens of options, including short-term, long-term, and first year programs. So what program do you pick? First, you have to establish what you want to get out of your program. Are you simply looking for a change of scenery? Do you want to boost your resume? Are you interested in learning about a specific place? These are all things that you should take into consideration. I determined that I wanted a change of scenery, while also having an opportunity to boost my resume and develop professionally. With these goals in mind, I was able to narrow my options down to two programs: the Dublin Parliamentary Internship program, and the Community, Policy Making, and EU Parliament program in Leuven, Belgium.

I ultimately decided to do the program in Leuven, because an internship at the EU Parliament was something that I simply could not pass up. Additionally, as a dual-citizen of the Netherlands and the US, I saw an opportunity to improve my language skills and live close to my

family in Europe for three months. This was one of the best decisions that I have ever made.

Living in Leuven, Belgium was absolutely amazing. The city is home to one of the world's oldest universities, Katholieke Universiteit Leuven (KU Leuven). As a result, Leuven has the feel of a college town, while simultaneously feeling as though you are surrounded by history. The architecture of the city is stunning, with the highlight being the Stadhuis (City Hall) and St. Peter's Church in the center of the city. Leuven is a social city, with an abundance of restaurants, cafes, and bars that its inhabitants frequent. In a few short days, I felt comfortable and at home there.



Stadhuis, Leuven, Belgium

The program kept me busy. I had class on Mondays and Thursdays, and on Tuesday and Wednesday, I took a 30 minute train ride to Brussels to go to my internship at the EU Parliament. On the weekend, I had an opportunity to travel around Europe and visit new places, and meet new people.

Class was an important part of the program, and the courses were always engaging and interesting. My personal favorite was a class about EU Law, where we gained a comprehensive understanding of how the EU came to exist, and how it operates today. I had class mates from across the country, including students from Chicago, Philadelphia, Washington, D.C., and Boston. The experience of living with the people that you go to class with was a new experience for me, and one that was very fulfilling. Forming study groups for class was easy, and by the end of the program everyone had made new friends.

Travelling across Europe every weekend, though exhausting, was spectacular. If you planned your trips far enough in advance, Ryan Air (Europe's cheap flight headquarters) would help you to go pretty much anywhere in Europe, and stay within budget! During the course of the semester, I visited the Netherlands (3 times), France (twice), Italy, Poland, Germany, Luxembourg, and the UK. It was exciting to see and experience new places, and each weekend became an adventure. While every trip was amazing, I would have to say that my favorite was my trip to Venice, not only because of the city's unique atmosphere and transportation system, but because of the history, the architecture, and the food.

While the traveling aspect of studying abroad was amazing, the highlight of my study abroad experience was the internship at the EU Parliament. When you get accepted to the

program, you also get placed within an office of a member of the EU Parliament. Each office gives a different experience, partly because of differences in culture, but also because of the various committees within the Parliament that the members sit on. In my office, I did a lot of work relating to the Transport Committee. I attended legislative meetings, met with lobbyists, and helped the office with their daily tasks. It was an incredible experience from a professional standpoint, and it has directly aided me in getting internships and jobs in the past year.

This was my experience. When you study abroad, you will have a vastly different experience. Your experience really is what you make it. It can be the best semester of your college career. But, especially as an INT student, the value of being exposed to new cultures and seeing the world cannot be understated. Do yourself a favor, and go somewhere new next semester, next year, or two years from now. It could be the best decision you ever make.



Me at my internship, EU Parliament

# WINTER EVENTS AROUND CHICAGO



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## Christkindlmarket

50 W. Washington St.  
11am-8pm Weekdays/11am-9pm  
Weekends

An open air, European style holiday market, with homemade gifts and food! The market goes through the month of December, and is located at Daley Plaza.



23

## ZooLights

Lincoln Park Zoo  
10am-5pm Mon-Fri  
10am-6:30pm Sat/Sun

Annual festival at Lincoln Park Zoo with thousands of lights, ice carvings, train and carousel rides, food, drink, and pics with Santa! Free Admission. Runs through January 6th.

1

## Ice Skating at The Bean

Millennium Park

Come down to The Bean at Millennium park for ice skating with spectacular views of the city. Skate rentals are only 12 bucks on weekdays!

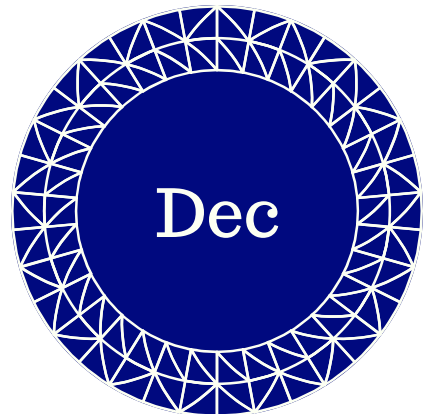


14

## Ugly Sweater Dancing

2412 W. North Ave. #201

Do you have an ugly sweater? Do you like dancing? Then this is an event for you! Tickets include a 45 min. beginner's swing dance lesson, as well as open dancing and a costume party.





# **International Studies**

## **Winter Quarter 2019 Classes**

### **INT Core Classes**

- INT 100: Intro to International Studies, Warner (MW 4:20-5:50)**
- GEO 201: Geopolitics, Papadopoulos (M 6-9:15)**
- INT 200: Intro to Macroeconomics in an INT Context, Stump (W 6-9:15)**
- INT 202: International Conflict and Cooperation, Malik (TTH 11:20-12:50)**
- INT 202: International Conflict and Cooperation, Stump (TTH 2:40-4:10)**
- INT 204: Cultural Analysis, Ehsani (2:40-4:10)**
- INT 205: International Political Economy, Stump (TTH 11:20-12:50)**
- INT 206: Identities and Boundaries, Nast (TTH 4:20-5:50)**
- INT 301: Senior Seminar, Gott (MW 1-2:30)**

### **INT Elective Classes**

- INT 307/407: Race, Sex, and Difference, Nast (TH 6-9:15)**
- INT 308/408: Nature, Society, and Power, Ehsani (M 6-9:15)**
- INT 310: African Politics, Adibe (online)**
- INT 319: Revolutions and Peasant Rebellions, Soltero (MW 1-2:30)**
- INT 324/524: International Economic Law, Gott (T 6-9:15)**
- INT 330: Asian Foreign Policy, Stalley (MW 9:40-11:10)**
- INT 364: Inequality and Political Trauma, Sioh (TTH 11:20-12:50)**
- INT 396: Topics in Global Urbanism, Papadopoulos (MW 4:20-5:50)**

Follow us on social media!



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