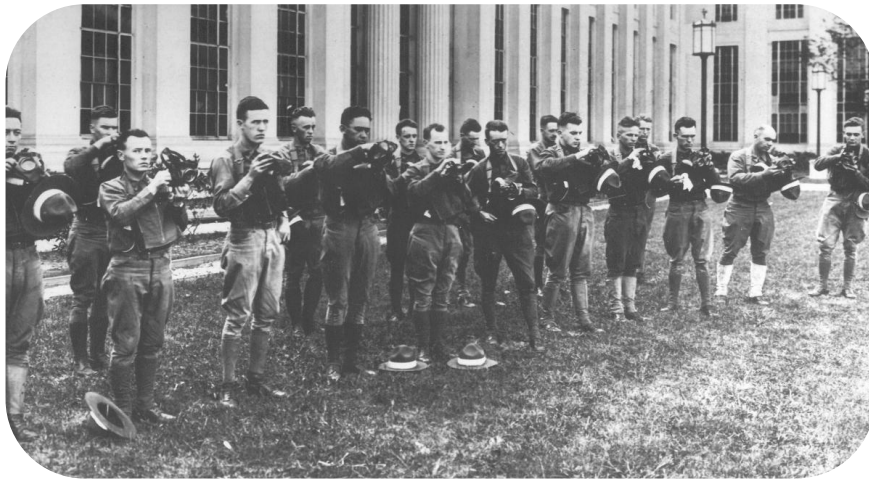


# PAUL REVIERE RECORDIER



**SPRING 2019**





Army ROTC cadets conduct a gas mask drill on Killian Court in Spring of 1918.

## PRB's History:

MIT established the Army ROTC Paul Revere Battalion in 1917, one year after the passage of the National Defense Act of 1916. During World War I, more Army Officers came from MIT than from any other school (with the exception of West Point). Of the 1,538 military participants in World War II from MIT, 1,335

were Commissioned Officers. The battalion's history would go on to fill many pages with individual accounts of bravery on the battlefield as well as scientific and technical achievements in military laboratories. Today our battalion's history is shaped by the wide variety of students from MIT, Harvard University, Tufts University, Wellesley University, Gordon College, Salem State University, and Endicott College. Yet our history does not stop here. It continues to be written by the men and women of the Paul Revere Battalion, whenever the call may come.

## Contributors:

Grace Chao, Harvard, '19  
Yeva Yin, MIT, '20  
Michael Hiebert, MIT, '21  
William Mitchell MIT, '19

Yuriy Voznyarskiy, Tufts, '20  
Jill Sharples, Harvard, '21  
Shane Seekamp, Gordon, '21  
1LT Caroline Bechtel, Wellesley, '17

Sophie Hill, Wellesley, '20  
Emma Carter, Wellesley, '19  
Ian Miller, MIT, '21

## Editor's Note:

The Revere Recorder serves to highlight the big events of the semester. It is a macroscopic view of the events that were held and the experiences that were had. However, there are moments and memories that are not captured in its pages. Moments like the overwhelming feeling of pride when you see your peers accomplishing the unbelievable- dropping 6 minutes (yes, *minutes*) from their run, being accepted to a phenomenal medical school, or leading their first squad mission. The moments of laughter shared at post PT breakfast and the stories shared on long car rides to MIT. The thumbs up, the fist bumps, and the best friend handshakes. These microscopic moments may not be explicitly listed in these pages, but they fill in the gaps of the words and images in this semester's Revere Recorder. I hope that as you read the following stories, you take the time to remember the small moments too.

We would also like to thank all of those who have donated to our program. This year those donations helped fund the catering for Cadet Carter's photo exhibit, Cadets Miller and Shah's development of their Soldier Design Competition entry, and everyone's ticket to the Military Ball. Please visit the back cover if you are interested in supporting similar opportunities for our cadets in the future.

*The views expressed in this journal are those of the authors and do not reflect the official policy or position of the US Army, Department of Defense, or the US Government.*



## **Letters from Cadet Leadership: Battalion Commander**

Grace Chao, MSIV

Greetings! My name is Grace Chao, and I am a senior at Harvard studying Economics and Classics. I will be commissioning this May into active duty as a Field Artillery officer, and I couldn't be more excited.

It has been a privilege and honor to serve as the Cadet Battalion Commander this spring, and I am immensely grateful for the opportunity to lead the Paul Revere Battalion in my final days at

Harvard. This has been a phenomenal semester of training, due in no small part to the incredible efforts of our cadets, cadre, and our larger Army family.

From the Tough Ruck to the Soldier Design Competition, Army Innovation Panel to Combined Field Training Exercise with the Black Bear Battalion in Maine, air assault operations with the 12<sup>th</sup> Aviation Battalion to a cyber hackathon for a forward-deployed command, the Paul Revere Battalion has certainly been busy this semester. We established Revere's Rangers, a cadet-driven program that aims to provide additional tactical and physical training opportunities to ambitious cadets, hosted several general officers to discuss the strategic and technological future of the U.S. military, and conducted multiple field training exercises with incredible Army partners.

This diverse spread of opportunities and resources available to cadets underscores our commitment to leadership development in the tactical, strategic, and professional environment. The Paul Revere Battalion will continue to challenge leaders who will soon take command in a rapidly changing, unpredictable, and complex world order. We are not just shaping platoon leaders, but thinkers and strategists who will guide the Army into the future.

This edition of the Revere Recorder will showcase several notable events and cadets, and I am very proud of all the battalion has accomplished this semester. On behalf of all the members of the commissioning class of 2019, we will miss all the friends and comrades we've made in this program and cannot wait to see what you will do in the years to come.

Sincerely,

Grace Chao



## Command Sergeant Major

Yeva Yin, MSIII

I cannot say how grateful I am to have been Cadet Command Sergeant Major and to have led one of the most talented and motivated groups I've ever met. Growing up in a very different country, I was that shy cadet who never spoke in group and never knew what was going on when I first joined the program. If someone had told me then that I was going to be the CSM and lead the battalion formation all the time, I would have been terrified by the thought. But I have learned and grown so much throughout the years in this program and have become much more confident with both my

soldier and leadership skills. I truly appreciate everyone in the Paul Revere Battalion for trusting me to lead and developing me along the way.

Being CSM has offered me the privilege to observe the training process for cadets. I am constantly amazed at how dedicated our cadets are. From varsity athletes balancing rigorous academic, sports and military commitments to everyone struggling and crawling (and laughing) through four feet of snow during CFTX, and all the weekend and midnight emails and messages. I've seen huge growth in every cadet, especially those new to the program, over the course of just one semester.

Lastly, a big thank you to the cadre for putting all the trainings together, offering us cool opportunities (such as riding in helicopters), and mentoring us patiently all the time; And to our MSIVs who truly demonstrate the definition of lead by example, pushing every one of us to reach our full potential.

I look forward to getting back with this great team next semester, and good luck to the MSIVs going into the big Army-I know you will shine!



Cadet Yeva Yin (left) with Cadet Grace Chao (right) at the Military Ball.

Sincerely,

Yeva Yin



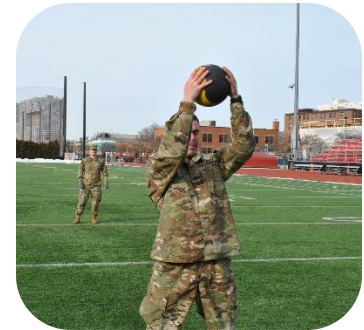
## Arctic Challenge

Yuriy Voznyarskiy, MSIII

Saturday, February 23<sup>rd</sup>, was the start of a normal weekend for most college students in the Boston area. A chance to sleep in, take comfort in the warmth in their dorm rooms, and recover from their week of academic duties. Outside, in the 23° weather, the partially frozen Charles River crept along slower than – well, slower than molasses in February. The Paul Revere Battalion paid no heed to the extremities – besides donning their proper cold weather gear of course - and was prepared for a challenging day at the crack of dawn.

The Arctic Challenge pitted the battalion's training teams against each other in a friendly, yet high stakes competition to achieve the highest number of points in timed events.

First, the teams got exposed to the new Army Combat Fitness Test scheduled to roll out by the end of 2019. Compared to the previous Army Physical Fitness Test, which only measures timed pushups, sit-ups, and 2-mile run, the new ACFT is a more complex test that provides a more significant predictor of success for soldiers than the previous exam and focuses on full-body performance. Cadets strived to put in their full energy and effort into the deadlift, standing power throw, hand-release pushups, sprint-drag-carry shuttle lane, and finished all this off with a timed 2-mile run knowing that their performance counted towards their team score.



CDT Voznyarskiy gets ready to crush the power throw.

But this would not be the last of the strenuous day. The tactical lane was next. The members put their athleticism to test by throwing mock grenades within a specific blast radius, high and low crawling across the wet and icy ground, and counting on their teammates to provide cover-fire as they performed buddy team rushes across the field.



CDT Voznyarskiy and his team finish the ruck on the Harvard Bridge.

A grueling 6-mile ruck was next through the chilling wind and icy asphalt. The sound of cadences could be heard through the Boston esplanade as cadets encouraged and motivated their fellow cadets to brave through their blisters and shin splints knowing time was of the essence. The sounds of cars honking in support further boosted their morale and spurred them on their journey. Half-way through the ruck, a medical lane was executed. The soldiers-in-training performed TCCC (tactical combat casualty care) on a wounded dummy, smothered in ketchup, rushed their fellow comrade on a stretcher, and called a 9-line medical evacuation to get them to safety. Full cooperation was needed amongst the teams to finish this task as smoothly

and efficiently as possible. Roles were assigned to fully take advantage of different cadets' strengths. Team members, who had previously performed field casualty care at Basic Camp, bandaged the dummy, while the strongest members shouldered the full weight of the dummy designed to weigh as much as an average human. Others used their knowledge of the radio to call in the MEDEVAC memorized by heart.

Teams put in their final burst of energy to propel through the finish line, awaiting the warmth of the unit as well as steaming pizza. While their classmates were just now waking up, Paul Revere Battalion cadets were going home ready to start their next missions-homework and academic projects.



## Beat Air Force

Sophie Hill, MSIII

The running joke in my family has been this: I went to college planning to study French and IR, to join the college newspaper, and maybe to play some intramural soccer. Instead, I came back speaking Arabic, loving country music, studying Biology and Middle Eastern Studies, and I'd joined Army ROTC. My family was mostly supportive, especially my three older brothers. The eldest brother was ecstatic, he said he wouldn't have imagined me doing anything else. The youngest of the three was a little shocked, having been medically disqualified from Air Force ROTC, but was

supportive nonetheless.

But the middle brother, Zach, was so disgruntled by my decision to join Army ROTC that he did the worst thing imaginable: *he enlisted in the Navy.*

I didn't know Zach had actually joined the Navy until he'd already shipped off to Boot Camp. We didn't talk after he graduated, and next thing I knew he was stationed across the Atlantic as a hospital corpsman - top of his class and bound for success as a navy medic in Rota, Spain.

Although Zach and I had drifted apart over the last few years, we were able to reconnect over military service, and I booked a ticket to Spain in January so that he could show me around and catch me up on his new life.

When I got to Spain, I was thrilled to see how well Zach thrived off the structure, discipline, and lifestyle of physical fitness that the military provides. Sitting at a seaside cafe as the sun set, I listened to my brother and his fellow corpsmen while they took turns sharing stories about Boot Camp, long shifts in the hospital, and setting off to sea for weeks at a time. And even though I was in a completely foreign place surrounded by historic Spanish architecture, devoured plates of paella, and a bunch of sailors, I felt like I had gained another dozen brothers. Zach and his peers took me in, made me feel welcome, and (after making me do push-ups before our second round of drinks) helped me feel like a part of a family I didn't know extended so far.



Taken from the top of the Cadiz Cathedral in Spain while CDT Hill was visiting Zach who's stationed there as a Navy Hospital Corpsman.

Although CPT Kassim ends most sentences with "Beat Navy," since I've joined the Paul Revere Battalion I've learned that the bond between servicemembers goes deeper than football games or who's better at ultimate frisbee. At the end of the day, we all have the honor of representing the same country.

As a future Army officer, I'm looking forward to continuing to uphold the camaraderie and mutual respect for service that I've begun to share with my brother.

And although it's more than a year away, I'm looking forward to graduating next May with my full family in support. Not only will my brother be coming back stateside for the first time in 3 years, but for my commissioning ceremony I'll have the honor of having Navy Hospital Corpsman Zachary Hill as my first salute.

Go Army. Go Navy. (But beat Air Force.)



CDT Hill's parents and her brother, Zach, after he graduated Navy Boot Camp in June 2018.

**Field Training:** This semester the Paul Revere Battalion had the opportunity to conduct two separate field training exercises. The first was a weekend-long, combined exercise (CFTX) where cadets trained on platoon level operations with the Black Bear Battalion in Maine. Despite the feet of snow drifts making movement difficult, Paul Revere cadets once again proved that they could conquer any challenge. The second field training exercise (FTX) was just a day long, but had a lot packed into it. MSII cadets got to lead squad level missions while MSIIIs got some time on the range to brush up their skills before heading into Advanced Camp this summer. All cadets (and cadre!) had the opportunity to ride in a UH-60 Blackhawk helicopter thanks to the 12<sup>th</sup> Aviation Battalion. Fly Army!

**C  
F  
T  
X**



From top left (clockwise): CDT Atkins powers through the snow drifts to lead his platoon. CDT McKinney is all smiles after a lane. The Tufts crew manages to stop yelling "s'co bos!" long enough to take a picture. Cadets spend some much-needed time warming up by the bonfire.



**F  
T  
X**



From top left (clockwise): CDT Memoli ensures no enemy come near his squad's ORP. CDT Gillich relays information from the birds to the ground (*photo by SFC Dawson*). CDT Thompson enjoys the views from the helicopter (*photo by SFC Dawson*). CDT Kim runs to his squad after the helicopter takes off. Bird's eye view of the cadets pulling security while the helicopter takes off (*photo by SFC Dawson*).



## Learning the Ropes of Becoming a Cadet NCO

Shane Seekamp, MSII

Coming into my sophomore year of ROTC, I was looking forward to the opportunity to be a team leader. While such a job may seem menial when compared to the PSG or PL slot, leading a small group of freshman cadets has been an experience that has blessed me and has helped me grow in my personal leadership. Being a TL also allowed me to refine my leadership qualities so that down the road I will be prepared for bigger jobs in the battalion, jobs that require an

understanding of the lowest levels of the command structure.

In one of our many leadership labs, my MS instructor, Sergeant First Class Kirk, told my sophomore class that it is better to have a squad with really good team leaders and a bad squad leader, than vice versa. This is because the team leaders are the center of gravity for the squad-sized element in many ways. They are the soldiers that ensure that the squad leader's vision comes to fruition, and they are also the soldiers that check in and make sure their subordinates are cared for and performing within the expected parameters. This semester has taught me the importance of especially the latter point. I had the privilege to play a role in which I was challenged and helped personally at the same time. Being so close to my cadets, the decisions that I made affected them more closely than decisions other cadets up the chain of the command in the battalion made. An example of this was one our field training exercises.

One of my key tasks was to ensure that my cadets' gear was properly suited for the training to come, and it was my responsibility to make sure they were prepared coming into one of their first training exercises. This task humbled me because on top of making sure that I was personally ready (the only requirement when you are a MSI, as I had been just the previous year), I had to make sure my team was ready too. I learned that not only was my own gear of concern, but so was that of my subordinates. With them, it was even more crucial. When I stumbled with the task, one of the MS4s graciously pulled me aside to discuss and reflect on how I could improve.



CDT Seekamp and members of his company at CFTX.

He told me that as a battalion, there is no such thing as individual success; when someone won, the team won, and when there was a mistake, everybody made a mistake. He reiterated to me that we were a family and that I was never far from a willing cadet to help me. This really made me step back and appreciate the brotherhood I had with cadets that were invested in my leadership and the team's success. Reflecting on this now, this idea is the backbone of the NCO Corps, and the Army at large.

On a final note, being instructed the whole year by an infantry sergeant helped me further recognize and appreciate the degree of fellowship soldiers share among themselves within the enlisted ranks. SFC Kirk helped me realize that in the Army, older superiors were only performing at their best when they were consistently and actively engaged in their subordinate's successes. I'll take this lesson with me throughout the rest of ROTC and into the military itself.

# Revere's Rangers:

This year semester marks the emergence of a new extracurricular ROTC club called Revere's Rangers. The club seeks to prepare cadets for large-scale, multi-domain combat in which they will face unexpected challenges that demand both fortitude and intellect. Toward this end, the program aims to expand cadets' technical and tactical knowledge of warfare, build cadets' presence by pushing their mental and physical limits, and develop cadets' problem-solving and decision-making capabilities. This semester, in addition to running supplementary fitness training before our regular morning workouts, the club conducted MOUT training, held war-gaming nights, and practiced small-unit tactical scenarios with paintball. The program's end state is to graduate visionary, inspirational leaders who embody the spirit of the warrior scholar. They will be ready to anticipate the enemy and adapt to the future battlefield.



Cadets congratulate each other upon completion of the 'Tough Ruck,' a 26.2-mile to raise money for veterans.



Left: CDT Rishi Shah on the Tough Ruck.

Below: Professors from the Naval War College run a war game session for Revere's Rangers, reenacting Napoleon's 1796 Campaign in Italy.



Left: SFC Kirk demonstrates proper room-clearance procedure during MOUT training with Revere's Rangers.

Right: CDT Henry Hanlon and CDT Andrew Churchill deliberate over troop movements in the Soviet Union during a game of Axis and Allies.





## Hackathon

William Mitchell, MSIV

It's not every day that cadets have an opportunity to make real contributions in support of the active force. In April, eight cadets represented the Paul Revere Battalion in a Joint Special Operations Command (JSOC)-sponsored hackathon at MIT Lincoln Laboratory (LL). The hackathon dealt with exploiting captured enemy materials in the form of phones and tablets. Over the two-day event, the cadets and a dozen LL employees focused on exploratory data analysis with the goal of crafting tools that would help convert

information pulled from the enemy materials into knowledge that would benefit our warfighters abroad.

The hackathon was an opportunity for cadets with interests in Military Intelligence, Special Forces, Cyber, and related fields to work on a real-world problem and to interact with high speed operators. The event was an initial experiment to gauge the value that capable cadets could bring to the table and to test the waters for similar opportunities in the future.

Some of the products that Paul Revere cadets produced included: a tool that makes a graph of all contacts (i.e. phone calls and texts) made between individuals and identifies the phone numbers of the people whose phones were hacked, a dictionary with a mapping of call records paired with various metadata graphs, and an algorithm that would identify a specified number of the most frequently occurring words in a text document while avoiding common words such as "a", "to", "the", etc.

Before the hackathon concluded, all participants briefed their work to the CTO of JSOC, Mr. Snehal Antani. Mr. Antani had this to say: "Great energy at MIT... they did some really solid work and I'm excited to see the final results. This event will have achieved more impact in a few days than most places get done in months/years."



Cadets Mitchell, Miller, Churchill, Wong, Steinbeck, Crawford, and Koch at Lincoln Lab.



The Lincoln Lab coin.

A week later, we returned to LL for a closeout debriefing. The hackathon organizers, Dr. Raoul Ouedraogo and Dr. Curt Davis, presented our products to SGM Eric Ross (who had been leading the hackathon effort at a forward deployed location) and Lincoln Lab Director Dr. Eric Evans. SGM Ross was pleased with what we had accomplished in just two days and told us that our work would have a direct impact on the success of his team's mission. Director Evans was also pleased and thanked each of us individually with LL coins.

When asked what they enjoyed most about the event, several cadets were quick to chime in. Cadet Andrew Churchill said, "My favorite part of the Hackathon was the independence and sense that we were doing something truly beneficial." Other cadets enjoyed the opportunity to work alongside experienced professionals and took advantage of their depth of knowledge. Cadet Andrew Crawford, who worked closely with an LL employee for much of the event, added, "I really feel like I progressed a lot in the short amount of time that we were there. It was a great experience!"

As we were leaving, the event organizers were already talking about putting together another hackathon in the fall. It was an excellent opportunity and the Paul Revere Battalion's contributions paved the way for similar events to happen in the future.

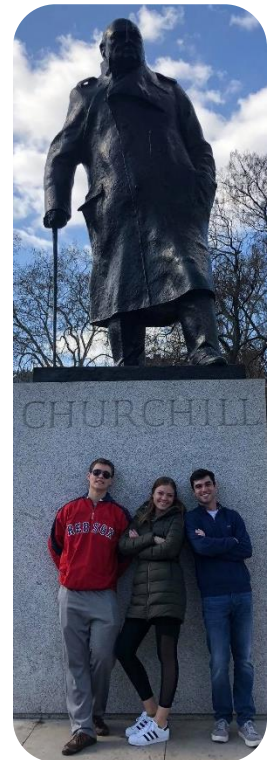
## Paul Revere Abroad

My experience abroad has opened up eyes to the world and put me into such a wide variety of situations I would have never imagined: finding myself out past midnight in Istanbul with only google translate to get me where I needed to go, fiddling with a computer science project in the back seat of a rental car while waiting for the Aurora Borealis, confusing a battalion of British cadets at the local British drill hall by asking if I could join their program, riding a camel into the Sahara and sleeping in a tent under the stars, and running my APFT 2-mile on a quiet road in the Dutch countryside.

Of course, plenty of life happened in between these highlights. I studied at Imperial College London, took exams, did coursework, played lacrosse (even making it all the way to the semifinals of the English national championship), explored the UK, and made all sorts of friends from all around the world. I went to a lot of museums, read a lot of books, and saw a lot of art. I feel like I have grown a lot as a person, both in how I handle unfamiliar situations and people, but also in how I handle unfamiliar ideas. My decision to study in London was made (somewhat) on a whim, but it is one I am very thankful I made. I believe these kinds of experiences are essential to our development as officers and leaders among our peers, and I would highly recommend this opportunity – or anything like it – to anyone interested in shaking things up and trying something completely new.

## London

Michael Hiebert, MSII



Cadet Hiebert (right) in London with Cadets Miller and Brown.



Cadet Sharples at the Louvre Museum.

## Paris

Jillian Sharples, MSII

This past semester I studied abroad in Paris. I lived with a host family and attended courses at the University of Saint Denis and the Sorbonne. While I initially saw this as an opportunity to take a break from the pace of Harvard and ROTC, in reality I only changed the type of challenges that I had to face—not the amount.

The first challenge was deciding to attend a language immersion program where I would live with a French-speaking family and attend classes with French students. Hesitant at first, I decided to

apply, seeing this as a once-in-a-lifetime opportunity. The second challenge was getting on the plane. The third through hundredth was actually doing it.

In the United States, I am confident in my ability to express myself in everyday situations and I expect that I will be understood. Here, I had to learn a whole different host of social cues, the difference between “Bonjour” and “Salut”, along with how to do my academic work using French methodology. At first, the Parisians I talked to would simply answer in English, dismissing me as an American tourist who wanted to practice their subpar French. However, over time I learned to better adapt to these situations and generally become more confident in myself as a student and person.

As a cadet, you are forced to constantly put yourself in uncomfortable situations and tirelessly pursue a better version of yourself. I honestly do not believe that I would have adapted to this experience as well as I did if it were not for the skills I have learned from ROTC.

**Boston Army Week:** In April, the first ever Boston Army Week happened. Over the course of the week several exciting events took place in order to showcase the Army, its science and technology endeavors, and to develop a closer relationship with the Boston community. The week started off with a kick-off from the Massachusetts governor. Later in the week, Northeastern hosted a cyber fair. On Friday, the Paul Revere Battalion co-hosted a series of panels with the MIT Innovation Initiative focused on how the relationship between Cambridge area schools, labs, and companies help drive innovation in the Army and what challenges the Army will be facing as new technologies make their debut on the battlefield. The week fittingly ended on Patriots' Day weekend with an expo in Boston Commons where our cadets helped with some set up and talked to people about ROTC.

## Color Guard



## Cyber Fair



## Tech Panels



## Recruiting

From top left (clockwise): CDT Hanlon leads the color guard at Faneuil Hall. Cadets Shah and Miller present their Soldier Design Competition entry at the Cyber Fair. Cadets Liu and Van Atten enjoy the Boston Commons event. CPT Swain moderates one of the discussions at the Innovation and Technology in the U.S. Army event.

**Military Ball:** Every year, MIT's Army, Air Force, and Navy ROTC programs get together to celebrate the year and get to know one another. This year, Marine Corps Major (ret.) Neal Duckworth was our guest speaker. He spoke of his experiences in the Marine Corps and shared advice to us as future Second Lieutenants on professionalism and dedication. This event was especially fun for the seniors, as they got to wear their branch insignias for the first time and were recognized for receiving their branches.



From top left (clockwise): Cadets Gallagher, Abusch-Magder, and Murray enjoy a break between courses. Cadets Alhilfi and Tretter during social hour, CDT Li embraces the Joint Service nature of the event. Cadets Brems and Seekamp during the main meal. Cadet Schuyler poses with a fellow Wellesley ROTC cadet. CDT O'Brien rocks her Medical Corps insignia with her twin sister Grace.



# Wellesley and War

Emma Carter, MSIV

One of my favorite rituals at Wellesley is running around Lake Waban. For as each new season comes and goes, as the leaves change, and the lake freezes and thaws, I cannot help but feel at home. It is also a ritual that connects the two contrasting worlds I embody, a connection that is often left untouched because The United States Military and Wellesley College at first glance have seemingly little in common.

Many students at Wellesley College negatively regard the military. Common notions stereotype anyone serving in the Army as imperialist, uneducated, and conservative. However, many service-members also do not view Wellesley positively. I have been asked often, “Isn’t that some hippy-dippy liberal school?” I believe for both sides, this disconnect derives from a lack of knowledge leading to oversimplifications of the two very diverse communities. After people get over the shock that –yes, Wellesley does have an ROTC program-- they typically ask why I decided to join the military and simultaneously attend a women’s college. For them, they struggle to see how the same person who chooses to attend Wellesley would choose to join the Army. For me, these two seemingly opposing paths are actually quite similar.

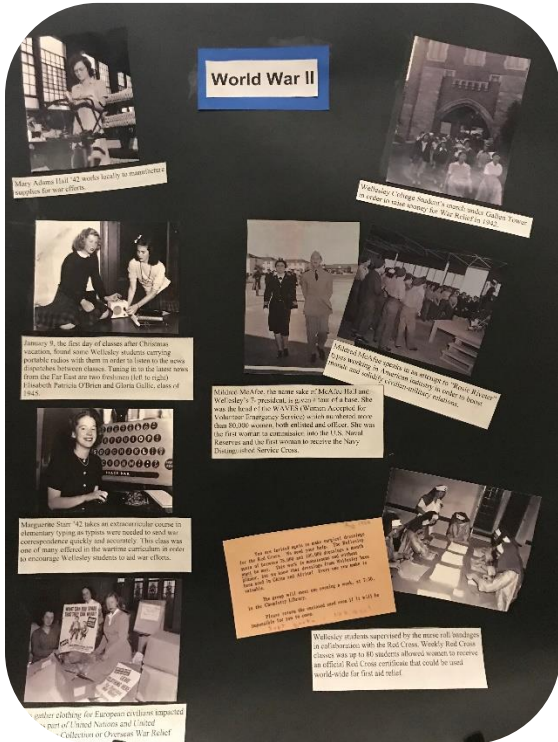
In light of this, last semester I completed an independent study on the history of Wellesley College veterans. It culminated in a public exhibit aiming to display the overlap. I found a rich history of collaboration and service. Wellesley students have served in every

twentieth century war. They have answered their nation’s call bravely and boldly. Some have even made the ultimate sacrifice. As I looked through the photographs, read the newspaper articles, and perused the archives, I found the two institutions to be remarkably analogous. Both empower their people to face the world’s most pressing issues. Both attract high-caliber, driven individuals. Selecting which photos to present seemed impossible as I saw faces that embodied strength and resolve in every photograph.

In the end I realized these “polar institutions” are not so different at all. In fact, they complement each other quite remarkably. The living proof is not just in the photographs but the people who came into the institutions as students and finished as leaders.



CDT Carter with her independent study advisor.



WWII photos from CDT Carter’s exhibit.

Please email the author at [ecarter1@wellesley.edu](mailto:ecarter1@wellesley.edu) if you would like to see the digitalized exhibit.





# Soldier Design Competition

Ian Miller, MSII

It's late out now. The sun is dipping below the horizon. A T-1000 Terminator approaches a local watering hole, looking for anything but a cold beer. This machine is programmed with a specific target in mind, John Conner. The audience can now see what the T-1000 sees and how it is making sense of its surroundings. It detects cars and motorcycles, and correctly assumes that they are not threats. When it enters the bar, it detects people, but again correctly assigns them as non-targets. The T-1000 finally sees John Conner in a corner of the bar. The artificially intelligent machine has found his target.

The military has long relied on human soldiers to carry out extremely repetitive tasks. For instance, for a long time, a human soldier might be responsible for staring at a video feed from a forward-deployed or perimeter security camera to monitor for potential enemies in the area. This task is important, but incredibly tedious. In this kind of problem set, humans are prone to making costly mistakes. In this kind of problem set, machines have the comparative advantage.

The Institute for Soldier Nanotechnologies organizes the yearly Soldier Design Competition. The competition prompts teams to identify a specific military need and build a prototype to meet this need. This year, CDT Rishi Shah and I set out to build a system of embedded visual sensors that would rapidly and autonomously disseminate intelligence gathered on the battlefield.



What the model "sees".



The Vision Module prototype.

In our design, each sensor takes in video from its field of view and detects objects of interest within that view, much like how the T-1000 processes visual information in the Terminator movies. The second half of the detection process is determining the location of the detected object. We wrote the software to do just that. Detection class and location is broadcasted via radio to the Nett Warrior system,

which is like a google map for soldiers. Any sensor on our network would be able to populate this map, giving soldiers on the ground and at headquarters access to the information.

Each sensor weighs less than 2 pounds and is small enough to fit in the palm of your hand. Each sensor also operates autonomously. This means that soldiers don't have to worry about manually sharing intelligence with adjacent units or higher command. The system of sensors does that automatically.

The military is trending towards a bigger reliance on small, expendable, highly autonomous systems to do important tasks and our project represents a step in that direction.

The support we received from cadre and senior cadets was invaluable.

Before the SDC Finals, we presented at the Northeastern Army Cyber Fair and received positive interest from senior military officers and NCOs. After receiving this feedback and similar interest from current soldiers at the SDC Finals and a private company in Cambridge, both CDT Shah and I will be continuing work on the project. We also have plans to test our system with a unit at Fort Devens this summer with one of the NCOs we met with at the aforementioned Cyber Fair.



Cadets Miller and Shah present their work at the SDC Finals.



## First Deployment

with the 525th Expeditionary Military Intelligence Brigade  
1LT Caroline Bechtel, Class of 2017

On August 29th, 2018, I began to work officially as the Task Force ODIN Battle Captain (night shift) out of Bagram, Afghanistan. We completed the hand-off, and suddenly I found that my training wheels were off-- my trainer was gone. Now, I oversaw over 55 aerial intelligence, surveillance, and reconnaissance, assets; about eight other soldiers and NCOs; and 40-50 aerial collection operations per day. I stood in front of nine different screens displaying full-motion-video feeds of some of our airborne assets.

Task Force ODIN (Observe, Detect, Identify, Neutralize) is the primary aerial intelligence collection task force for Afghanistan. We own about half of all aerial assets in the country and support operations for a variety of supported units across the area of operations. As Battle Captain, my job was to coordinate between our subordinate units, higher headquarters, and other key players to ensure operations run smoothly.

“Battle Captain” sounds like a cool, important job. In some ways it is. In many ways, it’s not. I spent each night answering phone calls and writing reports. So many reports. So many emails. To be sure, it’s a good thing that many of my nights were relatively uneventful. It means nothing too bad happened.

The best part of my deployment was to participate in the intelligence collection process up-close. The best way to learn your branch’s craft is to see it in practice at JRTC, NTC, or on a deployment. I was thrilled to see how the different collection pieces come together to create actionable intelligence products. It’s a pretty neat feeling to know that I played a role in that process, albeit a miniscule one.



Then 2LT Bechtel is surrounded by love before heading off for her first deployment.



Then 2LT Bechtel is welcomed home by family and friends.

In late February, I redeployed to Fort Bragg, NC to take a new position. I’m now a platoon leader and the officer-in-charge of the Fort Bragg Home Station Intelligence Reach Operations Center. My soldiers analyze full-motion-video feeds from Task Force ODIN assets. We are operational 24/7. The position presents a host of new and unexpected challenges-- my soldiers work a real-world mission without the practical isolation of a deployment. We must balance unit readiness with their mission-related duties, and we must work to keep everyone on work-life balance. These factors reflect how modern intelligence works and its interesting quirks-- you might not be deployed, but you may still provide direct support to the war.

My experience in the Paul Revere Battalion prepared me to be a lieutenant in that it taught me time management, the importance of credibility, and basic management skills. At the same time, I’ve experienced situations that no cadet training could have prepared me for. In these situations, I don’t turn to my time as a Paul Revere Battalion cadet as much as I turn to my Paul Revere Battalion comrades. Just last week I called Harvard grad and former PRB BC Charley Falletta to discuss NCO development. More than any other organization I’ve been a part of, Paul Revere Battalion is full of people with exceptional character, competence, and commitment. So, invest in your training, but even more so invest in your relationships. You will need each other along the way. No fear!

**The Cadets  
of the  
Paul Revere  
Battalion**

# The Paul Revere Battalion

## MSI-MSII Class



Abrecht, Quinton



Alhilfi, Kadhim



Arunachalam, Easun



Brown, Chloe



Burnett, Mikyla



Butler, Margaret



Chan, Sophie



Delbrocco, Andrew



Follwenweider, Joshua



Johndrow, Sean



Jordan, Mackenzie



Kim, Bryce



Levine, Ashley



McKinney, Isabella



Melvin, Claire



Mitchell, Joshua



Murray, Keith



O'Connor, Sean



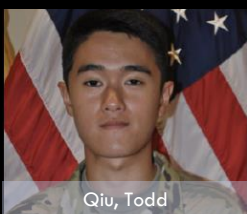
Paragamian, Matt



Prieto, Mateo



Pumiglia, Michael



Qiu, Todd



Smith, Hunter



Thompson, Erik



Tretter, Cooper



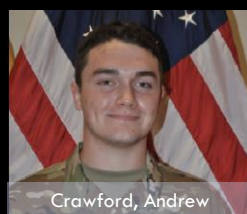
Balasubramanian, Gayatri



Churchill, Andrew



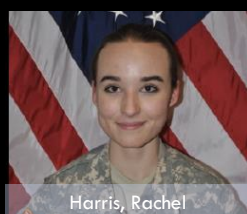
Conboy, Liam



Crawford, Andrew



Felissaint, Veridson



Harris, Rachel



Hiebert, Michael

# The Paul Revere Battalion

## MSII-MSIII Class



Jamieson, Caroline



Lee, Lucy



Liu, Annie



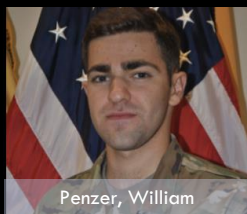
Memoli, Garrett



Miller, Ian



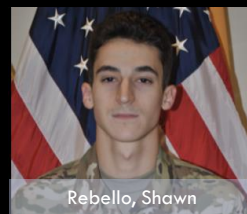
Patrone, Clarke



Penzer, William



Pham, Laura



Rebello, Shawn



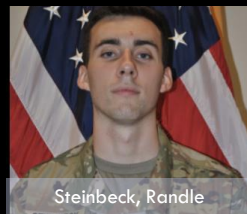
Rice, Matt



Seekamp, Shane



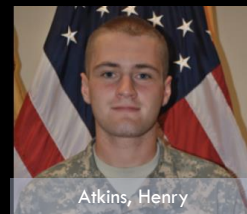
Sharples, Jillian



Steinbeck, Randle



Van Atten, Isabella



Atkins, Henry



Barrera, Mar



Brems, Matthew



Bryan, Connor



Hanlon, Henry



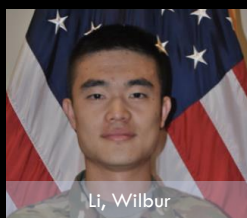
Hill, Sophie



Lazo-Rivera, Pedro



Legg, Cole



Li, Wilbur



Lisowski, Eva



Machra, Mallika



Murray, Patrick



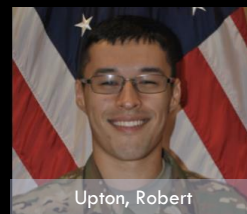
Salvas, Steven



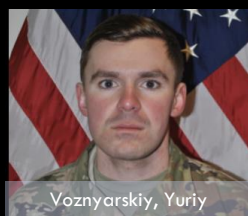
Shah, Rishi



Stockham, Rex



Upton, Robert



Voznyarskiy, Yuriy



Yin, Yeva

# Congratulations to Paul Revere Battalion's Graduating Class!



Abusch-Magder, Oren  
Active Duty  
Adjutant General  
Branch Detail Infantry



Carter, Emma  
Active Duty  
Field Artillery



Chao, Grace  
Active Duty  
Field Artillery



Gallagher, John  
Active Duty  
Field Artillery



Gillich, Rob  
Active Duty  
Armor



Harn, Jack  
Active Duty  
Military Police



Johnson, Lauren  
Active Duty  
Aviation



Koch, Eric  
Active Duty  
Armor



Mitchell, William  
Active Duty  
Cyber



O'Brien, Alannah  
Education Delay  
Medical Corps



Pernice, Charlotte  
Reserve  
Adjutant General



Schuyler, Jessica  
Active Duty  
Signal Corps  
Branch Detail Chemical Corps



Wong, Andrew  
National Guard  
Cyber





# NO FEAR!

## Contacting MIT Army ROTC:

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Cambridge, MA 02139

Telephone: (617) 253-4471

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Facebook: [facebook.com/PaulRevereBattalion/](https://facebook.com/PaulRevereBattalion/)

Instagram: [instagram.com/armyrotcmit/](https://instagram.com/armyrotcmit/)

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Alumni Fund at [giving.mit.edu/](http://giving.mit.edu/)

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