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January 18, 2017

To whom may concern:

It is indeed our pleasure to nominate Professor Taesoo Kim for the CETL/BP Junior Faculty Teaching Excellence Award.
In this letter, we summarize the stellar contributions Professor Kim has been making for the College and the Institute on the teaching and education front. He has been highly successful in teaching courses that are extremely challenging to teach (we speak from experience, as we have taught these courses in the past). We have broken down the teaching accomplishments of Dr. Kim into four categories:

Teaching efforts and performance

Dr. Kim has been teaching systems and security courses in the CoC curriculum. Specifically, he has taught CS 3210 (once), an undergraduate course in OS design; CS 6265 (once), a graduate laboratory course in systems security; and CS 8803 (once), a special topics course in building secure systems.

Dr. Kim has put his unique stamp of teaching in each one of these courses. For example, he has made CS 3210 a low-level immersion into OS development in which the students are exposed to kernel code, and authoring and debugging kernel-level software through a series of well-planned projects. The lectures are nicely integrated with the learning objectives of the projects. Dr. Kim creates an education atmosphere that fosters peer-learning and working in teams. Prior to Dr. Kim, several faculty had taught this course and student feedback via course assessment showed numerous problems. A complete turn-around for this hands-on course has been possible because of the new approach Dr. Kim has developed for this highly demanding course.

Dr. Kim runs the graduate-level laboratory course on information security in a similar fashion. Again, this course must be hands-on in which students discover vulnerabilities and develop exploits for them. It is no exaggeration that effective teaching of this course requires considerable experience in security analysis that few faculty possess. One of us taught this course in the past and it was a real challenge to develop projects that strike the right balance between the degree of challenge and the level of learning that occurred as students worked to overcome these challenges.
Dr. Kim has developed new projects that maximize learning by allowing students to work in teams that unravel a series of security exploits, culminating in a competition at the end of the semester. The students are incentivized through the semester to aim at winning the competition and get energized towards this goal. Notably, the students participate as a team in the NSA code-breaking challenge, and in 2015 and 2016 the Georgia Tech team placed first in the competition. Students who took this course with Dr. Kim often stopped by to chat about it with one of us (Prof. Ahamad). Although they invested a great deal of time in the course, they always felt that what

they learned far exceeded the tremendous amount of time it required. It is no exaggeration to say that courses like this help make Georgia Tech's cybersecurity program one of the best in the country.

Dr. Kim has also developed a new course to introduce students to the latest research in systems security and motivate them to pursue research problems in this area. This course on building secure systems, which is based on a set of recent papers from premier systems and security conferences, was highly successful the very first time it was taught. The notable outcome of this offering is that the work of a group of students from this course resulted in a high-quality conference publication. Also, three students who enrolled in this course became "converts" to pursuing systems security for their Ph.D. dissertation.

Dr. Kim's teaching evaluations are very strong. He received 4.8 out of 5 in CS 3210 (enrollment 41, responses 41); 4.8 in CS 8803 (enrollment 16, responses 14); and 4.7 in CS 6265 (enrollment 24, responses 23). These scores are considerably higher than when these courses were taught by much more experienced faculty in CoC. Many laudatory comments from the students from all three course responses speak to the depth of knowledge, dedication to student learning, and transfer of research expertise into teaching that Dr. Kim has shown in the way he has taught these courses.

Dr. Kim was selected as the "Class of 1969 Teaching Fellow" in Fall 2016.

Curriculum development

All three courses that Dr. Kim has taught since coming to Georgia Tech are examples of curricular development. CS 3210 OS Design is a follow-on course to a first course in computer systems. The students enrolled in CS 3210 already have the OS concepts. Dr. Kim completely revamped CS 3210 so that the students have an immersion as to how "real" operating systems are implemented. Though it bears the same course number, the content of the course is completely Dr. Kim's creation. Through tutorials, he makes the students learn how microkernel-based and monolithic-kernel-based OSs are structured. Through a series of lab exercises, students are allowed to put into practice the concepts they have already learned about operating systems from the prerequisite systems course. By implementing pieces of the OS kernel, the students get a real feel for kernel programming and debugging. Dr. Kim has created a website of all the course modules, lecture material, and lab exercises, making it easy for any faculty member to teach the course with a high standard. This has facilitated offering this course in Fall 2016 and Spring 2017 by instructors from GTRI. This course development by Dr. Kim is an example of both educational scholarship and educational service to the school, given the paucity of teaching cycles for systems courses in the school.

At the graduate level, the new course that Dr. Kim has created on building secure systems and offered as a special topics course is a much-needed addition to the graduate curriculum, bridging operating systems and information security. This likely will become a regular course in the near future.

The lab course in information security (CS 6265) has completely new material, labs that expose security threats to information systems, and an end-of-semester competition that energizes the student teams to excel in the course.

Courses taught at Georgia Tech

Dr. Kim has taught four times at Georgia Tech since he arrived. CS 8803 in Fall 2014; CS 6255 in Fall 2015 and Fall 2016; and CS 3210 in Spring 2016. Dr. Kim's unusually well-funded research program (more than a million dollars a year in funding, 12 PhD students, 3 post-docs, one MS, and two UG) is the reason he had to buy out of teaching.

- **CS 3210.** Retrospectively, CS 3210 was envisioned as a course that follows a first course in systems wherein students have learned all the "theory" of operating system design. In other words, CS 3210 is a course in which students get immersed in operating system kernel development, looking at production

operating systems, how they are implemented, how they can be modified/extended, etc. However, due to a lack of adequate staffing, the course had regressed into a more conventional operating systems course, with much repetition of what students had learned in the first course.

When we asked Dr. Kim to take over that course and deliver it the way it was originally intended, he far surpassed even our original vision for the course. He made CS 3210 a true "lab-oriented" course, in which students get intense in-depth exposure to "kernel hacking" through weekly "workshops" focused on specific learning objectives for that week. The course has been a huge hit with the students, as demonstrated by some of the comments enclosed with this nomination. What is even more impressive is that Dr. Kim has created a course website with the teaching material, the lab exercises, etc., to enable anyone with the right system credentials to teach it. This is exactly what we are doing now: offering the course in Dr. Kim's style with instructors who are well qualified in operating systems design.

- **CS 6265.** Dr. Kim could have taken the easy route in CS 6255 by using projects that were developed by other instructors in the past. Instead, he completely re-designed the course, developed new projects that focus on security vulnerability discovery and exploitation, and found a way to engage students in a way that makes challenging tasks interesting. Based on feedback from students who took this course, CS 6255 really prepares them to become world-class cybersecurity professionals. Indeed, we are fortunate to have faculty like Dr. Kim who invest the effort and time to develop such innovative courses and effective ways to deliver them.

Student mentoring and supervision

Dr. Kim has already graduated two Ph.D. students (co-advised with Dr. Wenke Lee) who have taken ~~up~~ faculty positions at Purdue and UC-Riverside, respectively. Both of these students (Dr. Byoungyoung Lee and Dr. Chengyue Song) won the 2015 USENIX Internet Defense Prize sponsored by USENIX and Facebook ($100K). He currently advises 12 Ph.D. students and is also supervising one MS student and two undergraduate students. Dr. Kim's dedication to research is infectious, as can be seen from the dedication his students and post-docs show to churning out high-quality publications in top conferences and earning honors (such as best paper awards and winning grand challenge competitions) at some of the premier conference venues. His students Insu Yun and Yeongjin Jang won the DEFCON CTF (catch-the-flag competition) in 2015, and Wen Xu won the Pwn2Own competition in 2015. The team "Disekt," which includes Dr. Kim's Ph.D. students, proceeded to the final of the DARPA Cyber Grand Challenge ($750K award).

Dr. Kim's post-doc student, Dr. Changwoo Min, was honored with the Outstanding Post-Doctoral Research award from COC in Spring 2016.

In summary, Dr. Kim has been making outstanding contributions to the teaching mission of the college and richly deserves this award.

If you need any more information, please feel free to contact either of us.

Sincerely,

Kishore Ramachandran and Mustaque Ahamad

Taesoo Kim has been evaluated and nominated by the School of Computer Science Awards Committee to represent the department. Do not hesitate to contact the committee, Ling Liu (ling.liu@cc.gatech.edu) and Vijay Vazirani (vazirani@cc.gatech.edu), if you have any question or concerns.

Teaching Statement

Taesoo Kim
Assistant Professor,
School of Computer Science,
Georgia Institute of Technology
E-mail: taesoo@gatech.edu

January 20, 2017

"Probably one of the best profs at Tech." in CS 3210, Spring 2016 (Evaluation: 4.8/5.0)

My teaching philosophy acknowledges that computer science and, in particular, computer systems are an academic subject that is different from conventional classroom-taught subjects. Computers are ubiquitous today, and any motivated student can learn programming and CS concepts using online resources such as Coursera or OpenCourseWare. Indeed, this was how I learned programming: I wrote my first BASIC program for fun when I was 13 and honed my programming skills over the next few years by reading and contributing to open source programs.

I used to think that all good system builders followed this path and were fully self-taught. My view changed when I first took an operating systems course in college: the course taught me the rationale for the different design decisions made while building an operating system---a rationale that I could not possibly pick up on my own even after reading the Linux source code multiple times. From this and other experiences, I realized that developing good systems requires a deep knowledge of the full software stack and that developing this knowledge without guidance can take a long time. A well-structured education, on the other hand, can equip students with this knowledge in a short time and arm them with the tools needed to make the right design decisions. I believe that this is the key role played by formal education in a discipline that has so much room for autodidactism. I also believe that the role of a teacher in this setting is not to just convey massive amounts of existing knowledge to students, but to be deeply involved in the students' learning process, stimulating their intellectual curiosity, and inspiring them with a love for building good systems. These beliefs shaped my teaching style, which is embodied in the following three approaches to learning. I strived to accommodate them all in my classes at Georgia Tech.

Learning by coding

I believe that students will have only a superficial understanding of textbook concepts unless the concepts are brought alive by tinkering with code; this process teaches students how to apply the abstract textbook knowledge to the design of an actual system. Therefore, I will design and teach courses with an emphasis toward practical systems-building principles. For example, just as building a toy OS is essential in an OS course, in a security course, practical hands-on experience with attacks and defenses is indispensable to understand core security principles. I would like to design such a security class with companion labs, in-class tutorials, and free-form final projects that establish connections

between the lecture material and practical problems. With this, students will gain a solid understanding of how their knowledge can be applied to solve a variety of real-world problems.

Learning by teaching

I am a strong believer in peer-teaching, wherein students teach one another. Interactive peer-teaching keeps the students engaged, benefits both the tutor and the tutee, and is also a great way for students with similar interests and background knowledge to share their excitement about the subject. One way I would like to encourage students to explore and deepen their new-found knowledge is through presentations of a digest of their insights, and discussions of confusing concepts. This will provide a unique opportunity for students to organize and communicate ideas effectively, solidifying their knowledge.

Learning as a team

Working as a team motivates students and improves their conceptual, coding, and peer-teaching skills. For example, in a systems security course, a hacking competition like capture-the-flag (CTF) can be an excellent motivation for students to team up and understand how attacks and defenses work. Working toward the single goal of winning, team members will learn to collaborate and, more importantly, inspire each other. This can also stimulate students to get involved in research to deepen their knowledge of security concepts. This interactive learning process was an invaluable experience to me when I participated in the Defcon and the MIT/Lincoln CTFs.

Following these principles, I developed or revamped three courses at Georgia Tech: Design Operating Systems (CS 3210) for undergraduate students, Information Security Lab (CS 6265) for professional master's students, and Building Secure Systems (CS 8803) for Ph.D. students.

Undergraduate curriculum development: Design Operating Systems (CS 3210).

"He is extremely knowledgeable about any topics that I had questions about in lecture. He also covered interesting research topics in class, keeps a very good and comprehensible pace. Another great feature is live code demos. Almost all of my sysarch professors thus far keep lectures extremely theoretical with no application." --- in CS 3210, Spring 2016

Typical operating systems courses are taught by delivering endless theoretical yet outdated concepts to students, including CS 3210 (Designing Operating Systems) at Georgia Tech. After my appointment at Georgia Tech, I completely redesigned the structure of the course, which now includes six new labs and in-class tutorials that students are asked to complete by writing a handful of code snippet after learning about the concept. The lab is designed to be implemented incrementally, meaning that students start with a barebones toy operating system and include their own component (e.g., scheduling) to the operating system they are building upon. The "toy" operating system comes to have various modern features (e.g., file system and network stack) near the end of the semester. However, the operating system that students are playing with is good enough to boot on their physical laptop from scratch; we made this booting practice a tutorial in which students are asked to write a bootloader and initial loader to bring up a student's operating system into the actual laptop. Students felt most excited about this tutorial because they are learning the real knowledge that reveals the hidden secrete of the underlying operating system.

To provide broader perspectives of the design of operating systems, I included two types of operating

systems following two completely different design principles: micro-kernel, called jos, and monolithic kernel, called xv6. During lectures, students learn about the monolithic kernel (a more realistic design) and for labs, students are asked to implement each component of a micro-kernel, which is more favorable to incremental fill-ups. Being exposed to two different designs, students are not only learning the design of wide-deployed operating systems, but also being exposed to the design of the state-of-the-art research operating systems that provide unconventional features, enlightening students to get interested in the study of operating systems. Thus, two undergraduate students, David Heavern and Alex Epifano, became involved in our research on this subject after the semester.

The feedback about this new class is largely positive; I got 4.8 out of 5.0 on the course evaluation from over 40 undergraduate students.

Professional Master's curriculum development: Information Security Lab (CS 6265)

"the sheer brilliance. good grasp on each concepts. effective communication in transferring knowledge. At least I got inspired to study harder. Although I struggled way too much, it was fun." --- in CS 6265, Fall 2015

"Tech is fortunate to have Prof. Kim!" --- in CS 6265, Fall 2016

Learning security cannot be done without getting one's hands dirty. Learning such practical skills that are challenging is hard without having both an understanding of the fundamental concepts and solid experiences. In CS 6265, I have strived to address both aspects by applying my philosophy in computer science education: learning concepts through lecturing and team work and gaining practical experiences through in-class tutorials and labs.

For about two years, I designed and created new labs, tutorials, a competition platform, and course materials from scratch following my teaching principles. Every week, students are asked to solve (i.e., formulating attacks and exploitation) 10 challenges, which are specifically designed to practice skills learned in the lecture. This is like a capture-the-flag (CTF) hacking competitions, but spans an entire semester. As a team, all students in CS 6265 participated in a real CTF competition as well. In the NSA Codebreaker Challenge in 2015 and 2016, Georgia Tech placed first among over 200 participating universities in the competition. Last semester, I got 4.7 out of 5.0 from about 30 students.

This course will be revamped for accommodating undergraduate students, collaborating with an undergraduate hacking club, GrayH@t, that I am currently mentoring. Furthermore, I plan to extend CS 6265 for an Online Master's class and Armco Master's program that Georgia Tech is offering.

Graduate curriculum development: Topics in Building Secure Systems (CS 8803)

"He exceeds all you can imagine in this field. Though tough to follow, it is good to make your shoes wet" --- in CS 8803, Fall 2014

I offered a new course that covers advanced techniques for design and implementation of computer systems addressing current security threats. Lectures based on the-state-of-the-art research papers in system security cover threat models, attacks that compromise security, and techniques that mitigate such attacks; some of the topics include operating system security, language security, hardware security, and network/application security. The outcomes of this course are remarkable: a group of

students wrote a paper for a premiere conference (OpenSGX, NDSS'16), and three Ph.D. students decided to study this topic in-depth. The feedback from students is extremely positive as well; I got 4.8 out of 5.0 on the course evaluation (16 students).

Remarks

I am a true believer of having hands-on practices (i.e., coding) in learning computer systems and security. I have been practicing my philosophy for the last two or more years at Georgia Tech in every class that I offered. I'd like to conclude my statement by emphasizing that the result of my early journey ~~is~~ has been remarkably successful. As glimpsed in the course evaluations and supporting letters, both CS 3210 and CS 6265 broke the traditional theme and style of previous lectures and became exciting, intellectually challenging, and most fun courses for students, including undergraduates, professional master's, and Ph.D. students. I hope to get more support from the school and institution to share my efforts and philosophy broadly at Georgia Tech through this award.

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Teaching Statement

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Typical operating systems courses are taught by delivering endless theoretical yet outdated concepts to students, including CS 3210 (Designing Operating Systems) at Georgia Tech. After my appointment at Georgia Tech, I completely redesigned the structure of the course, which now includes six new labs and in-class tutorials that students are asked to complete by writing a handful of code snippet after learning about the concept. The lab is designed to be implemented incrementally, meaning that students start with a barebones toy operating system and include their own component (e.g., scheduling) to the operating system they are building upon. The "toy" operating system comes to have various modern features (e.g., file system and network stack) near the end of the semester. However, the operating system that students are playing with is good enough to boot on their physical laptop from scratch; we made this booting practice a tutorial in which students are asked to write a bootloader and initial loader to bring up a student's operating system into the actual laptop. Students felt most excited about this tutorial because they are learning the real knowledge that reveals the hidden secrete of the underlying operating system.

To provide broader perspectives of the design of operating systems, I included two types of operating

systems following two completely different design principles: micro-kernel, called jos, and monolithic kernel, called xv6. During lectures, students learn about the monolithic kernel (a more realistic design) and for labs, students are asked to implement each component of a micro-kernel, which is more favorable to incremental fill-ups. Being exposed to two different designs, students are not only learning the design of wide-deployed operating systems, but also being exposed to the design of the state-of-the-art research operating systems that provide unconventional features, enlightening students to get interested in the study of operating systems. Thus, two undergraduate students, David Heavern and Alex Epifano, became involved in our research on this subject after the semester.

The feedback about this new class is largely positive; I got 4.8 out of 5.0 on the course evaluation from over 40 undergraduate students.

Professional Master's curriculum development: Information Security Lab (CS 6265)

"the sheer brilliance. good grasp on each concepts. effective communication in transferring knowledge. At least I got inspired to study harder. Although I struggled way too much, it was fun." --- in CS 6265, Fall 2015

"Tech is fortunate to have Prof. Kim!" --- in CS 6265, Fall 2016

Learning security cannot be done without getting one's hands dirty. Learning such practical skills that are challenging is hard without having both an understanding of the fundamental concepts and solid experiences. In CS 6265, I have strived to address both aspects by applying my philosophy in computer science education: learning concepts through lecturing and team work and gaining practical experiences through in-class tutorials and labs.

For about two years, I designed and created new labs, tutorials, a competition platform, and course materials from scratch following my teaching principles. Every week, students are asked to solve (i.e., formulating attacks and exploitation) 10 challenges, which are specifically designed to practice skills learned in the lecture. This is like a capture-the-flag (CTF) hacking competitions, but spans an entire semester. As a team, all students in CS 6265 participated in a real CTF competition as well. In the NSA Codebreaker Challenge in 2015 and 2016, Georgia Tech placed first among over 200 participating universities in the competition. Last semester, I got 4.7 out of 5.0 from about 30 students.

This course will be revamped for accommodating undergraduate students, collaborating with an undergraduate hacking club, GrayH@t, that I am currently mentoring. Furthermore, I plan to extend CS 6265 for an Online Master's class and Armco Master's program that Georgia Tech is offering.

Graduate curriculum development: Topics in Building Secure Systems (CS 8803)

"He exceeds all you can imagine in this field. Though tough to follow, it is good to make your shoes wet" --- in CS 8803, Fall 2014

I offered a new course that covers advanced techniques for design and implementation of computer systems addressing current security threats. Lectures based on the-state-of-the-art research papers in system security cover threat models, attacks that compromise security, and techniques that mitigate such attacks; some of the topics include operating system security, language security, hardware security, and network/application security. The outcomes of this course are remarkable: a group of

students wrote a paper for a premiere conference (OpenSGX, NDSS'16), and three Ph.D. students decided to study this topic in-depth. The feedback from students is extremely positive as well; I got 4.8 out of 5.0 on the course evaluation (16 students).

Remarks

I am a true believer of having hands-on practices (i.e., coding) in learning computer systems and security. I have been practicing my philosophy for the last two or more years at Georgia Tech in every class that I offered. I'd like to conclude my statement by emphasizing that the result of my early journey ~~is~~ has been remarkably successful. As glimpsed in the course evaluations and supporting letters, both CS 3210 and CS 6265 broke the traditional theme and style of previous lectures and became exciting, intellectually challenging, and most fun courses for students, including undergraduates, professional master's, and Ph.D. students. I hope to get more support from the school and institution to share my efforts and philosophy broadly at Georgia Tech through this award.

January 25, 2017

I am writing this letter on behalf of Prof. Taesoo Kim, whose operating systems class I had the pleasure of taking during the Spring 2016 semester. His class, CS 3210, was unique in that it was built around hands on learning. The class was structured around a series of labs in which we built an operating system piece by piece. Students were given the freedom to make their own design choices which challenged us to way the pros and cons of our decisions and it encouraged us to approach the class as if it were an assignment one might find in a job outside of school. Prof. Kim's approach to the class allowed us to learn the material in new ways, by creating an operating system ourselves each of us left the class with an intimate understanding of both the theoretical and practical considerations of operating system design.

In Prof. Kim's class, we were tasked with designing and implementing a final project of our choice. Each student could either work alone or in pairs to implement some feature into their operating system that they found interesting. Over the course of several weeks we were to implement our ideas culminating in a final demonstration where we were able to show the rest of the class what we were able to accomplish. The projects that people implemented were extremely varied; the demonstrations and presentations exhibited that great effort and self-motivation that the project encouraged. Prof. Kim was genuinely invested in seeing students succeed throughout the process. Himself and the TA staff assisted students in tailoring the student's interests into projects that could be completed in the given time frames.

Prof. Kim's deep knowledge about the class' subject and his eagerness to see the students succeed made the challenging assignments manageable. His use of technology in the class enabled us to focus on our work without getting bogged down waiting for feedback. Through the course website he provided us with detailed information including lecture notes, a submission site, a detailed schedule and more. When the course schedule needed to be adjusted Prof. Kim was accommodating to the needs of the students and maintained clear communication throughout.

His class remains one of the most engaging I have taken at Georgia Tech and it has inspired me to pursue career options in the field. For these reasons and more I can highly recommend Prof. Kim for the Junior Faculty Teaching Excellence Award.

Sincerely,

David Heavern

Georgia Institute of Technology

Jan 20, 2017

Letter of Nomination

Dear Selection Committee,

We would like to nominate Prof. Taesoo Kim for the CTL/BP Junior Faculty Teaching Excellence Award on behalf of the students from the Fall 2016 class, CS6265-Information Security Lab. Prof. Kim's class was the culmination of all the courses that we took at Georgia Tech. He developed an innovative educational platform that enabled us to practice exploitation techniques without building a resource intensive and expensive digital training arena. It was extremely challenging and through this effort, it allowed us to pursue our current understanding about cybersecurity further than where we started. The course taught us to not only expand our understanding about vulnerabilities, but it also taught us that teamwork is paramount to succeed. In many cases, we as students had to share our expertise and research to fully understand about specific exploits which we crafted. Unlike other courses, Prof. Kim's course takes advantage of the individual student's expertise and allows other students to elevate their knowledge with the help of their peers.

Prof. Kim viewed himself as a teacher before a researcher. His actions and motivations reflected his priorities and greatly enhanced the quality of his course. All 10 labs from the course included custom made challenges where we were tasked to find vulnerabilities and then craft exploits. These complicated problems were highly organized, and concepts effortlessly built on top of one another. This allowed those with limited experience to gain a basic understanding of the subject matter, to view what an exploit looks like beyond the textbook definitions, and in an assisted fashion allowing them to gain points toward their grade. Those with more experience could then continue through the rest of the exploits and gain additional points in order to raise their grade by attempting the harder tasks within the assignment. Observing the quality of the material that Prof. Kim created, his passion for teaching and the field was evident. Each class was 3 hours long with a lecture and a lab section. Prof. Kim would be available the entire class and would be asking students individually if they understood the material, if they needed help, and provided clear explanations when asked. Therefore, Prof. Kim's passion about teaching was evident not only through discussions with him, but also in the meticulous level of detail that was used in order to create the assignments and tutorials.

Throughout the course Prof. Kim's professionalism and dedication to teaching was demonstrated through his help in class, through Piazza, and e-mail. Prof. Kim always tries to respond to our questions quickly and encourages follow up questions and discussions with him and the TAs. As students we felt that Prof. Kim valued our opinions and he expressed this by incorporating our feedback into the course. He would also take our background into account and assist where necessary in order to help bring students that, perhaps didn't have the requisite background, up to speed. Prof. Kim's tutorial sessions and substitute lab assignments helped for some who were not performing well in the class to understand the difficult concepts and theory. Several students stood out to him for their performance and if they were absent from class he would inquire where they were and if they were receiving additional help from other students in order to ensure that they understood the day's material.

Within military doctrine understanding, our adversary and the actions they may take are critical for an effective defense. Prof. Kim's class allowed us to take the theory behind cyberattacks discussed in other courses and apply them as an adversary in a controlled environment. For those of us tasked with defending networks in the future, it will be critical to understand the possible attack vectors that an adversary might take and what those vectors could potentially look like in order to best defend against them. As we completed his course, his expansive knowledge in information security elevated our current capabilities as military cybersecurity experts to become invaluable to the US and Korean military.

From the quality of information we wrote, we believe that it is clear that Prof. Taesoo Kim is an outstanding and qualified teaching scholar. As active duty officers responsible with defending national cybersecurity and as students whom Prof. Kim has taught, we strongly argue to the selection committee to select him for the CTL/BP Junior Faculty Teaching Excellence Award. We look forward to his selection!

MAJ Jason. J. Choi
U.S. Army

MAJ Jinho Jung
ROK Army

CPT Humberto Nieves
U.S. Army

Georgia Tech School of Computer Science
College of Computing

January 23, 2017

Dear CETL Award Committee:

This is a letter of strong support for School of Computer Science Assistant Professor Taesoo Kim for the Georgia Tech CTL/BP Junior Faculty Teaching Excellence Award.

Professor Kim in just two and a half years at Georgia Tech has already made an incredible difference in the academic life of many students at the institute. Taesoo's classes have been very well received including the difficult undergraduate computing systems course where he received a 4.8 CIOS score. He has been selected as a Class of 1969 Teaching Fellow for fall of 2016.

Taesoo Kim has already become the most sought after PhD advisor on my faculty. He currently advises 12 PhD students. He has already graduated two students, co-advised with Professor Wenke Lee, both of whom were co-winners of the 2015 Internet Defense Prize, a $100,000 prize sponsored by Facebook given to the best paper at the USENIX Security Conference, a top meeting in computer security. Both of these students have taken academic positions.

I'll let Professor Kim's colleagues and students discuss these achievements in further detail but it is hard to quantify the level of excitement he has brought and continues to bring to the students at Georgia Tech at every level. He is an ideal candidate for the Junior Faculty Teaching Excellence Award.

Sincerely,

Lance Fortnow
Professor and Chair

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