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Teaching Statement

Teaching is a rewarding activity because it gives me the opportunity to contribute to the intellectual development of the next generation of researchers and practitioners. To me, teaching has two equally important and rewarding components: instructing and mentoring. Instructing provides an introduction to a topic students have never before encountered. Mentoring gives the students freedom to develop their own research on those topics so that they become more independent.

My main goal as a professor is to motivate, challenge, and support my students towards a deep understanding the concepts being studied, exploring cutting-edge technologies, and developing problem-solving strategies. My personal ambition is to share my enthusiasm and help them develop skills aiming to be productive and tackle real-life challenges.

For the past two years I have been the instructor of six different courses in the Computer Science Department at Stevens Institute of Technology, teaching 21 sections both on campus and online.

Teaching Philosophy

To instill strong, foundational pedagogy by enabling students to construct their own knowledge through participation in extensive in-class discussions and hands-on projects.

I believe hands-on experience is essential for students to acquire greater understanding of the concepts they are taught in the classroom. Bridging the gap between theory and practice is necessary for students to develop their skills. I also consider it important to expose students to the most recent technological advances, not only through reading and discussing influential publications in the research field, but also in practice utilizing case scenarios and creating useful and everyday life applications and services.

My teaching experience has enabled me to:

- Communicate complex concepts from programming language to Cybersecurity and Machine Learning
- Teach a wide variety of courses
- Teach in a way that prepares students for academia, as well as industry
- Incorporate modern software tools in instructional settings where appropriate

In the realm of admissions, I believe in the importance of pre-college programs to ensure the department is on the radar of potential incoming undergraduate students through advertising pre-college programming and through school fairs and by encouraging campus visits. I also believe in focusing on graduate admissions and recruitment both domestically and internationally to ensure a high quality and quantity of graduate students, which can lead to higher ranks. In 2017, I traveled with the graduate admission staff to China and India to establish new partnerships with well-known universities, significantly increasing the amount of admitted graduate students from these countries while other departments in the university experienced significant drops in enrollment.

Lastly, a key part of my teaching philosophy is that grants can increase the department's ranking, as well as improve the quality of courses and allow professors to expand their instruction and better engage their students. These grants allow research and teaching faculty in the department to collaborate with students and build classrooms that combine teaching and research utilizing modern technologies.

Teaching Experience

Courses

I am prepared to teach a variety of standard CS courses including: Programming Languages, Android and iOS Programming, Compilers, Computer Organization, Cyber Security, Multiprocessor Programming, Networks, Databases, and Operating Systems.

During my capacity as Assistant Teaching Professor at Stevens Institute of Technology, I taught a total of 51 sections of average 30-50 students, on campus and online, during the past four years. A list of courses I taught is:

Intro to Scientific Computing – F15, S16, F16, S17, F17, S18, F18, S19
Software Development Process – S15, S16, S17, S18, S19
Computer Organization – F15, S16, F16, F17, F18
Cybersecurity Capstone I (INSuRE) – F17, F18
Cybersecurity Capstone II (INSuRE) – S18, S19
Programing the Internet of Things using iOS – S17, W17, W18, S19
Smartphone and Mobile Security – W16, S17, W17, S18, S19,
Pre-College Cybersecurity – W16, W17, W18

Fall(F), Spring(S), Summer(W)

In addition, I have enjoyed creating new courses around more specialized topics including the two very new and popular Special Topics courses I introduced: Smartphone and Mobile Security and Programing the Internet of Things using iOS. Below are the course descriptions.

- ***Smartphone and Mobile Security***

This course focuses on the aspects of information and network security that come to light in the challenging and evolving field of mobile communication systems. The course covers not only smartphones and mobile telecommunication security, but aspects of mobile ad hoc and sensor networks.

- ***Programing the Internet of Things using iOS***

The growth of the "Internet of Things" (IoT) is allowing people to innovate new designs that can change the world. By looking at a variety of real-world application scenarios of the IoT and diverse implemented applications, the various understandings and requirements of IoT applications become apparent. This course allows students to understand what IoT technologies are used for today, and what compromises are required in certain scenarios. Finally, students will be given the opportunity to design and develop IoT applications for popular iOS devices (iPhone, Apple watch, and Apple TV), using Swift, the new programming language by Apple.

Online Courses

I have organized and taught successfully three online courses for Stevens online campus: i) Introduction to Computation, ii) Smartphone and Mobile Security, and iii) Programing the Internet of Things using iOS.

For all three courses, I employed various strategies to engage my students including short videos, real-time class sessions, one-on-one online meetings, and whole group discussion sessions.

INSuRE

For the past two years, I have co-taught Cybersecurity Senior Design, Cybersecurity Capstone I & II supported by the INSuRE consortium with Dr. Susanne Wetzel. The INSuRE (Information Security Research and Education) project aims to build research skills and experience for graduate students through a research network between CAE-Rs (Centers of Academic Excellence in Research) in Information Assurance/Cyber Defense. Through the project, students engage in interdisciplinary, distributed-team research on tasks in the national information security domain. The students learn research by doing, building skills, expertise, and connections that will enable them to hit the ground running faster on information assurance research projects later in their careers.

Mentoring

Effective mentorship can achieve not only a significant impact on the minds and careers of young academics, but also lead to strong contributions to one's research program. Mentoring students is a unique experience as it requires one to act as both a teacher and a manager. As a teacher, the role is to help students become progressively more independent, providing guidance as needed but allowing them to explore as much as possible on their own. As a manager, the role is to keep things on track so that students actually finish projects, including guidance on preparation and timing in the research process.

Pre-College Program

I serve as the Summer Pre-College program coordinator for the CS Department. Our Pre-College program consists of three tracks: the CS Intensive, the Cybersecurity Intensive, and the Echoes. As coordinator, I am responsible for organizing the courses for CS and the summer schedule, as well as recruiting and evaluating the professors that will teach during the program. I also teach multiple courses during all three programs; i) Cryptography, ii) Smartphone Security, iii) Smartphone Application Design, and iv) Cyber Security.

Undergraduate Advising

Over the past two years, I have provided structure, direction, and feedback to my 56 CS undergraduate advisees. Being consistently available at my office or through email allows me to give each student personal attention, discuss further any topics of interest, and help with additional explanations and considerations.

CS Honor Program

I also serve as the coordinator of the CS Honor Program and the advisor of 14 advisees. Part of my responsibilities are to evaluate the progress of the students in the CS Honor program, provide guidance with their study plan, and recommend and facilitate connections with research faculty members as students conduct an independent study or a senior thesis.

Independent Study and Senior Thesis Advisor

In the past two years, I collaborated with seven students conducting an independent study related to cybersecurity, smartphone security, sentiment analysis, and cryptocurrencies.

PhD Advisor

I have co-mentored Ms. Lefkothea Spilitopoulou since 2014. Ms. Spilitopoulou is a PhD student in the Department of Information & Communication Systems Engineering at the Aegean University in Greece. Together we have published a research paper for a tier one conference, and we are currently working on two other papers. Her research is related to Policy Making, Text Mining, Sentiment Analysis.

Book Publishing

As part of my teaching activities, I co-authored and co-edited a book:

> ***Intrusion Detection and Prevention for Mobile Ecosystems***
> by George Kambourakis (Author, Editor), Asaf Shabtai (Author, Editor), Konstantinos Kolias (Author, Editor), Dimitrios Damopoulos (Author, Editor)
> Series: Series in Security, Privacy and Trust Paperback: 378 pages Publisher: CRC Press (September 30, 2017) Language: English
> ISBN-10: 113803357X

CS and CS Curriculum Committee (CSCC)

As a member of the CS and the CSCC Faculty committee, we are tasked with making critical decisions about the direction of the department and moving forward the administration's 10-year strategic plan.

Teaching Faculty Hiring Committee

During the 2015-16 academic year, I had the opportunity to be part of the hiring committee for positions in two new teaching faculties. Being a part of the recruiting and hiring process gave me valuable insight into the consideration and weight factors are given during the hiring process and allowed me to better understand the needs of the University.

Collaborations with Maritime Security Center (MSC)

In the summer of 2016, I collaborated with the Maritime Security Center (MSC) as a mentor for their Maritime Cyber Security Project. I was responsible for coordinating a team of Cybersecurity, Computer Science, and Naval Architecture undergraduate students to work on a Maritime Cybersecurity research project.