

Report on COINS Workshop in Svalbard

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1 About Svalbard

This year's COINS Ph.D. student seminar was co-located with the NISK (Norsk Informasjonssikkerhets Konferanse) conference. The conference took place in Longyearbyen, which is the top of the world and the world's northernmost urban community. Apart from the excellent talks, I was also shocked by Svalbard's raw and arctic wilderness.

More information about the workshop, including a detailed program and a full list of mini courses and talks, can be found on the COINS's official website at <https://coinsrs.no/coins-ph-d-student-seminar-2018-svalbard/>.

2 Presentations by participants

2.1 How to get a PhD

Chriss Carr, Andrii Shalaginov and Bo Sun presented their strategies for how to get (and not to get) a Ph.D. degree. For Chriss it was traveling and socialising that got him through the studies. I think this is a valid strategy to choose, although it will not get you far if you have too much of it. The professors did usually disagree with his opinion, but there are not enough hardcore academics that applies to Ph.D. studies and want to continue an academic career. Andrii was more of the hardworking academic type, with long hours at the office. His efforts have made him an excellent candidate for further academic careers. Lastly, Bo had a child during her Ph.D. studies. This gave her time to have something else to focus on other than her studies. Additionally, it gave her time to reflect about her research. It is understandable that the institution and professors want to push their students to achieve better performances. My thoughts on this subject is that sometimes they put too many expectations on their students. For example, they would like cross-collaboration with other researchers, but there is little time and incentive for collaborations. Additionally, students aim to maximise what they can get out of courses. They would for example combine a course with a research paper they plan to write.

However, having courses that requires you to write about topics that is unrelated to your research is just simply a waste of precious time.

2.2 Research reports by participants

Adam Szekers

Adam's research is about analysing risk related to human-decision making by relying on publicly observable variables. His approach would be very interesting from the perspective of digital forensics. Criminals usually are after the same goal, and that is profit from their crimes. However, crimes are committed different in distinct cultures. Creating a psychological profile of suspects or criminals within a society could be used for predicting behaviour in the context of digital forensics.

Ali Khodabakhsh Ali's research focuses on the recent problem of fake videos, where people's faces have been swapped with someone else's face. Ali already pointed out that fake face detection is a manual for forensic investigators. I agree with this statement and see this as a future concern not only for digital forensics, but also for social media and news. Police agencies should have the tools to detect whether digital evidence is been fabricated.

Mazaher Kianpour

Mazaher's research is about different socio-technical perspectives. The idea is that security is not only a technical problem; rather it is a more socio-technical problem. The aim is to use behavioural economics (together with network game theory) for simulation and multi-agent systems to model these different layers of perspectives. Mazaher is in the starting phase of his Ph.D. studies, so we were only presented his ideas. I know that simulation and multi-agent systems would be a huge benefit to the digital forensic community. We need datasets that can be shared among forensic investigators/analysts, and usually in a way to avoid leaking personal information. Simulating or otherwise synthesising the data would have its benefits. I guess behavioural economics (depending on what one means with this expression) could potentially be used to improve financial fraud detection.

Muhammad Mudassar Yamin

Muhammad's research is about incorporating cyber security exercises to increase the learning of security. Simulation of cyber exercises in teams and individuals have shown an increased knowledge of cyber threats. He will look at inefficiencies in exercise development, execution, cost, and how one would go about making them autonomous. Forensic exercises/tasks already exists, but I do not know if they are used in practice. They can potentially improve forensic expert's expertise, however, their effectiveness is an unknown. For example, exercises can help investigators find evidence in unusual or difficult cases, but they usually do not change their methodology from what they are used to for everyday cases.

Shukun Tokas

Shukun's research is using language-based mechanisms for GDPR-compliance. She wants to develop an information flow control to guarantee privacy by design requirements. The goal is to prevent policy/privacy violations in software. Police investigations deal with

very sensitive personal information, it is almost like putting lipstick on a pig as the police is already very careful with such information and have implemented other procedures to control information flow. Thus, the basic ideas is probably implemented.

2.3 Experiences and work after a Ph.D

Berglind Smaradottir and Bikash Agrawal gave a presentation for how to find a job after completing a Ph.D. and beginning their own company, respectively. Berglind had difficulties finding a job after "completing her Ph.D. " because she delivered her dissertation after her contract had ended. Thus, she was in limbo between waiting for her defence and trying to look for a job. She wanted to continue the academic route, but this was the problem as she needed a Ph.D. degree for this. Her difficulties for finding a job was her own doing, as plenty of private and public institutions would probably have hired her.

Bikash talked about the journey after Ph.D. studies to starting their own company. His presentation was like any generic book on start-ups. An interesting talk that would be suitable for any aspiring founders, however, I will most likely not go down this path. This could be an option if I had an idea that I really believed in.

