Reflection

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Pursuing new lines of research. My expertise is in measuring, analyzing, and designing large-scale networked systems. I have, however, taken initiatives to broaden my expertise and focus to several new lines of research. I am collaborating, for instance, on projects in areas including blockchains, optical networks, and network security. The preliminary results from some of these efforts have already resulted in publications at top-tier venues. I am optimistic that these collaborations both at the VU and abroad will produce several high-quality publications in the future. My focus for the coming years will be explore areas at the intersection of formal verification and networking as well as systems security and networking. I am also investigating collaboration opportunities with colleagues working on reinforcement learning (RL), since recent work in networking show great potential for applying RL techniques to solving networking problems.

Advising students. The students at both the bachelor's and master's levels at the VU have typically a strong background in building systems. I realized that with a few brief tutorials and hands-on sessions I can significantly improve the networking background of such students. Then, I can easily nudge them to take on challenging networking-themed ideas for their thesis-based projects. Even within this short span of my employment at the VU, I have successfully published a paper on blockchains with an undergraduate student. I am optimistic about publishing a few master's thesis projects that are currently in the pipeline.

Applying for grants. I applied for both an NWO XS grant and a VIDI grant. The former was for an exploratory study on congestion control algorithms, while the latter is an ambitious research project on redesigning the networking stack for optimizing the performance of today's applications as well as efficiently utilizing modern network hardware. I was unfortunate with the NWO XS grant, but, having received several strong and favorable reviews, I plan to re-submit it soon with minimal changes. I also plan on applying for the ERC Consolidator Grant next year.

Teaching at the VU. The period-based academic calendar is substantially different from institutions where I have worked before. While it took some time to get accustomed to the short teaching periods and academic culture at the VU, I managed to contribute to several courses. I teach "Introduction to Computer Science" with Lin Wang. We experimented with a few changes to the course design this year, such as tutorials and poster sessions, to cater to the needs of the increasing volume of students enrolled in the program. Students appreciated the idea of learning several simple and useful tools, which they will likely put to use throughout their course of study at the VU. We are already adding more tutorials and updating the contents of this course for the next year. I also teach Systems Seminar with Animesh K. Trivedi and Network Security with Herbert J. Bos. While the latter was forked off from Computer and Network Security course, I have significantly expanded the breadth of the course and revamped the assessments. I am also eagerly looking forward to an opportunity to design a solid and extensive course on data networks to strengthen the students' foundations in networking.

Community Service. I joined the VU at the peak of the pandemic. The lockdown period was devastating, particularly in eroding many opportunities to interact with colleagues and students. I used the "extra" time that I had in serving at the technical program committees of various prestigious venues, and as a mentor at the N2 women workshop at SIGCOMM. The latter turned out to an excellent opportunity for me to learn more about diversity and gender-related issues in academia. I will dial down some of these efforts next year to focus more on research. In an effort to introduce myself to the Dutch security-research community, I joined the Netherlands-wide Cyber Security Next Generation (CSNG) consortium and chaired the committee for determining the best cybersecurity master's thesis across all Dutch universities.

Departmental Service. I currently serve as the bachelor's project coordinator for all computer-science thesis projects at the VU, and as the secondary coordinator for master's projects in CS. These roles take up a substantial amount of my time, but I am streamlining the relevant processes to minimize both my administration overheads as well as the supervision overheads of faculty members. In addition, I consult with the VU outreach program to strengthen VU's ties with reputed educational institutions in India and attract strong talent at all levels (from bachelors to faculty level) from the region. I have several ongoing research collaborations with students and researchers at BITS Goa and Microsoft Research in India. I am working with the outreach program initiatives to bring such researchers to the VU for a short term and introduce them to the different research programs at the VU by arranging a workshop or seminar.