A café-philo for computer science: motives, experience and next steps

Marc Bruyère*[1,3], Florian Richoux*[2,3], Daphné Tuncer*[4], and Marc van der Wal*[5]

marc@iij.ad.jp   *florian@richoux.fr*   *daphne.tuncer@enpc.fr*   *marc.vanderwal@afnic.fr*

[1]IIJ Research Lab, Japan
[2]AIST, Japan
[3]JFLI, CNRS, Japan
[4]École des Ponts ParisTech, France
[5]Afnic, France

Abstract—In this short paper, we report on our experience setting up a monthly reading group around the socio-technical challenges and ethics of computer science and digitalization. Our reading group is the result of an encounter between four computer scientists with different backgrounds and career paths, who work in different areas of computer systems, and who live in different places. Beyond these factual differences, we share an eagerness to talk with our peers not only about our technical contributions to digital developments but also about their implications on the future of our societies.

I. The need to discuss

The incidence of digital developments in day-to-day life has been massive over the past 30 years. From the way a large part of our interactions takes place today to how vital infrastructures operate or the world's geopolitics is shaped, the realization of digital tools and technologies is far from being a technical matter only. As practitioners of computer science, both through our education in college and through our professional occupation, we, as co-authors of this paper, acknowledge that we have directly been contributing to the construction of this digital era.

Before being computer scientists, we are people who live, work, and evolve in a set era and a set system, and indifferently from non computer scientists, benefit from the outcomes of these digital developments. This dual status of operators and beneficiaries of technological developments makes us ponder upon the emergent effects of the use and applications of digital constructs and technologies in the wild. It

is however not always straightforward to communicate these interrogations within our professional communities that often dismiss such considerations as irrelevant to their purpose.

Also, we do realize that talking with our peers about these issues is fundamental for broadening a perspective that can otherwise easily be defined by the view of a tiny fraction of the world's population. We therefore decided to set a reading group up in the manner of a *café-philo* for computer science that lets participants share and express their opinions on anything related to the digital world. Our discussions span many topics, such as the possibilities and opportunities of AI for people, but also the misuse of AI for purposes that are detrimental to the common good, the digital divide, the society of control, and the undeniable environmental implications and sustainability issues of widespread digitalization.

II. Reading to debate

For the four of us, the reading group is a side project. It takes place in sessions organized on a monthly basis. The setting is informal. The objective is to encourage the free sharing of ideas and opinions. Discussions are only constrained by the one-hour time limit reserved for this activity.

Each session is led by one of the participants, on a rotating basis. The lead for the session presents a piece of material to be discussed. The choice of the material is entirely up to the lead. It can be a scientific publication, a book targeted to a more general audience, an audio clip, a video, a documentary, an article from a newspaper, *etc.*; anything that can trigger a discussion regarding the role and impact of digitalization. Sessions are usually not formally

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*All authors contributed equally to this paper. The author's names are listed in alphabetical order.

concluded. The debate is left open and the topics discussed are aimed to support each of us with new ideas and perspectives to be applied in our practice, as well as to consolidate a general reflection.

Our reading group has been meeting for two years during which many different topics were debated. One of the sessions focused for instance on the workshop organized by the Internet Architecture Board in 2022 on the environmental impact of Internet applications and systems [IAB22]. Other sessions discussed different AI developements, *e.g.,* with the recent paper by Michael Cook on the social responsibility of AI applied to video games [Coo21], the book *Weapons of Math Destruction* by Cathy O'Neil [O'N16] or a selection of papers presented at the ACM FAccT 2023 conference [BBD$^+$23], [KBS23], [LvdSB23], [RK23].

In between sessions, we also exchange links to interesting content on a Slack channel.

III. Implementation challenges

Over the course of the last two years, we had to make some adjustments to the way we carry out the activity, an experience from which we are also learning.

We reside in different geographical areas located in different time zones. The sessions take place online at a time which corresponds to morning or late afternoon calls depending on our location. The choice of a video conferencing tool suitable for our requirements and needs has not been straightforward. We want to use something that is easily accessible, secure and respectful of privacy.

When we started the group, we did not set any agenda prior to the session. The discussion was entirely unstructured. We did however realize that such a format was not sustainable in the long run. There was naturally a need for some directions. We therefore decided to turn the discussion room into a reading group in which one person is to present a piece of work to the others, from which a discussion could emerge.

It is essential for us to keep the reading group informal. While highly rewarding from an intellectual perspective, this activity is (currently) a side project and we believe that making it too "academic" might impede our enthusiasm. At the same time, it rapidly became evident that setting a goal is necessary to keep the dynamic going. Given that we work in different domains and sectors, finding a common target for this initiative can be challenging.

IV. Next steps

The reading group has enabled us to go through many different use cases, reported in the press, in the scientific literature, through outreach initiatives, *etc.* We aim to pursue this initiative in different directions.

We wish to extend the sessions of the reading group to new participants. In particular, we are interested in kicking off collaborations with practitioners from other disciplines who have an interest in the topics of the café-philo. In addition, we are interested in building on top an initiative from two researchers in mathematics associated with the University of Cambridge in the UK and the University of Aachen in Germany who have been implementing a framework in the form of a comprehensive manifesto [CM23] to guide the responsible and ethical development of data-driven projects. A co-author of the paper is currently experimenting with using the framework in teaching mobility data analytics with Python as part of a final year module at École des Ponts ParisTech. The objective is to raise awareness among students of the ethical challenges associated with developing a project that uses data to support decision-making and make them think outside of a purely performance-driven mindset. More generally, we wish to develop a framework similar to the one proposed by Chiodo and Müller, adapted to the specifics of computer science. To that end, we plan to perform a benchmark of existing toolsets for teaching ethics to computer scientists, especially in French Doctoral Schools (*e.g.,* [Moo23]). We would like to invite anyone interested in this initiative to get in touch with us.

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Florian Richoux is a senior research at the AI Research Center of the National Institute of Advanced Industrial Science and Technology in Tokyo, Japan. His research focuses on Combinatorial Optimization combined with Machine Learning, often applied on games.

Daphné Tuncer has been working in the academic research arena for 15 years. Her research interests are in the domain of network and computer system management. While she has mostly been publishing pieces of work focusing on technical solutions until now, she has a strong interest in the socio-economics of the Internet and digitalization, and their impact on people and the environment. She reads about, listens to and watches a lot about ethics, history, and geopolitics, that are all great sources of inspiration to question research from the what for, why and how perspective. Daphné is currently with École des Ponts ParisTech, France. She initiated the reading group in 2021 with Marc Bruyère.

Marc Bruyère began his career in 1996 with the Internet Service Provider Club-Internet. Over the years, he has worked with various organizations, including Cisco, Vivendi Universal, Credit Suisse First Boston, Airbus/Dimension Data, Force10 Networks, and Dell. His academic journey started in 2012 with a Ph.D. at the LAAS CNRS and a two-year PostDoc at the University of Tokyo. His doctoral thesis is about open-source OpenFlow SDN for Internet Exchange Points (IXPs). Today, he is a senior researcher at IIJ Lab in Japan.

Marc van der Wal is an R&D engineer at Afnic, the registry for domain names for France (.fr) and overseas territories.

Among his research and development projects, he is exploring ideas for fighting abuse (spam, phishing, etc.) involving domain names. While some registries already use machine learning-based techniques for that purpose, he wants to make sure that no ethical issues might arise from doing the same on .fr domain names. He is particularly interested in explainability of AI models, questions regarding privacy and combating digital exclusion.