

(De)constructing Machines as Critical Technical Practice

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August 23, 2022

Abstract

This paper discusses the role of technology under the framework of Critical Technical Practice specifically in the form of constructing artefacts and deconstructing tools in order to produce what Philip Agre would describe as “reflexive work of critique” (Agre, 1997). By presenting the activities and methods used in the teaching and shaping of undergraduate courses, this paper aims to show how technical objects, such as data, datasets, application programming interfaces and machine learning models, can be considered as discursive subjects, demonstrating pedagogical understanding across fields.

The courses operate in the humanities tradition and take critical technical practice as a didactic approach, insofar as software and data are understood and manipulated on an instrumental level, while encouraging critical engagement and embodied reflection that bridge the technical and social/cultural domains. Within this pedagogical approach, critical is not only understood as a paradigm of rationality or quantitative, data-driven argumentation, but as adopting a critical position –i.e. to research and reflect on the social structures and cultural phenomena entangled with digital objects, bodies, tools, methods and software production.

By embracing work-in-progress and reflexive exploration, we aim to extend the notion of critical technical practice by unfolding how (de)constructing machines can be achieved beyond thinking of technology as neutral instrumentalisation. The challenge is how to find a balance, not only as researchers but as educators, unfolding aspects of both formality and functionality as well as questioning and understanding technology at a discursive and critical level. We argue that learning technical practice in an educational setting is not an end, but rather a means to question existing technological structures and create further changes in socio-technical systems.

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