

## Digital Creativity – Special Issue: Critical Computational Relations in Design, Architecture and the Built Environment

Special Issue Editors:

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When it comes to computation in design, architecture, and the built environment, practices, methods, and tools frequently offer “neutral” and “optimized” techno-solutions to (social) design problems. Portrayal of these computational infrastructures as neutral solutions that open participation in design hides the social, political, and environmental entanglements involved in their creation and expansion (Nakamura 2014; Benjamin 2019; Bridle 2018). This narrative of neutrality conceals power that computer-aided design (CAD) software monopolies and technology providers hold (Cardoso Llach 2015). Neutrality also obscures these platforms’ embedded values and their relations to injustice, racism, and inequality. Another narrative and mission of CAD industries and their computational technologies is the optimization of processes, which in architectural computation has gone through three phases: form, fabrication, and now data (Marble 2018). Optimization through fabrication includes industrial off-site construction with robotics, manufacturing assemblies, and streamlining modes of production. Optimization through data includes new forms of automation and new ‘user-friendly’ tools that employ machine intelligence to ‘free’ designers from the ‘toll’ of repetitive and non-creative tasks. While these tools claim to be accessible, how they and their algorithms work are blackboxed. How might we interrogate the values and relations embedded in CAD tools and processes? What does optimization really mean, what does it look like on the ground, and who benefits? This special issue aims to shed light on and conceptualize the power relations between computational design, the built environment, and society.

The special issue invites articles that address the above themes. We welcome contributions that seek to understand and uncover the power relations between (commercial) CAD systems, computational design practices, technology infrastructures, knowledge, education, and their reproductions of bias at multiple scales. Submissions informed by critical computational design, critical algorithm / data studies, infrastructure studies, critical race studies, postcolonial, queer, feminist, and learning theory are encouraged as are those addressing digital tools, practices, and components from a range of disciplinary perspectives. We are equally open to the forms and methods of analysis. Examples include but are not limited to:

- Positioning of computational design and technologies in wider sites of world-building and their power relations;
- Empirical accounts of digital/computational design production, user interactions, and everyday practices;
- Historical and/or auto-ethnographic accounts of (CAD) software and automation technologies for design, architecture, and the built environment;
- Critical reflections and interventions on machine intelligence, data-based design, and computational making;

- Methodological inventions on the cusp of the social and technical disciplines;
- Accounts and analyses of teaching critical computational design and curriculum development;
- Interventions that amplify under-recognized legacies of computational design or technology development.

### **Submission requirements:**

Submission to this special issue is a two-stage process. Authors interested in contributing are invited to submit an extended abstract (500 words) for review. The extended abstract should include the following information: (1) Name of author(s) with email addresses and affiliation, if applicable, (2) Title of the paper, (3) Body of the abstract, (4) Preliminary bibliography, (5) Short bio(s). Please email abstracts directly to the editors listed below.

Authors whose abstracts are accepted will then be invited to submit a full paper (up to 7000 words). Full papers will then be double blind peer reviewed for acceptance into the special issue. Note that acceptance of an abstract alone does not imply acceptance for publication in the journal. Upon acceptance of the abstract, you will be sent further authors' guidelines based on the Digital Creativity guidelines (Instructions for Authors) at <https://www.tandf.co.uk/journals/NDCR>.

### **Important Dates**

Abstracts due: March 31; Full papers due: September 30; Final versions due: March 2023;  
Expected publication: Summer 2023

### **Submission method**

Please send extended abstracts as PDFs or any questions to [criticalcomputation@gmail.com](mailto:criticalcomputation@gmail.com).

### **References**

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- Bridle, J., 2018. *New dark age: technology, knowledge and the end of the future*. London ; Brooklyn, NY: Verso.
- Cardoso Llach, D., 2015. *Builders of the vision: software and the imagination of design*. New York, NY: Routledge.
- Marble, S., 2018. Everything That Can Be Measured Will Be Measured. *Technology / Architecture + Design*, 2 (2): 127–29.
- Nakamura, L., 2014. Indigenous Circuits: Navajo Women and the Racialization of Early Electronic Manufacture. *American Quarterly*, 66 (4), 919–941.