

SPECIAL ISSUE ON

ARTIFICIAL INTELLIGENCE EXPLAINED (AI-X)

Immersive Articles

Aims and Scope

Artificial Intelligence (AI) techniques are helpful and effective in addressing real-world complex problems. In the recent decade, AI solutions have achieved several milestones in different fields and applications, such as image processing, computer vision, natural language processing, language translation, and many more. Therefore, studying AI methods has been becoming more relevant for a more diverse audience than ever before. Thereupon arises the need to explain the ideas and methods of AI to a broader audience. The theme of this special issue, Artificial Intelligence eXplained (AI-X), is aiming to introduce this field to a wide range of non-experts. Note the (purposeful) similarity of our name, AI-eXplained, to the popular research topic XAI (eXplainable AI). While the former aims to explain the basics of AI methods, e.g., how they represent information, how they operate, their applications and limits, the latter is a research topic that aims to explain the outcome of black-box AI systems. Even though both concern explaining, the difference is that AI-X is an educational enterprise targeting to introduce non-experts to the field of AI.

This special issue focuses on web-based interactive articles as a new type of publication being supported by IEEE Xplore. Interactive components (WebGL, Javascript) can be used to explain AI concepts or methods and allow for a hands-on experience in solving problems using AI techniques addressed in the article, e.g., by adapting parameters, building their own models from several building blocks, or interactively analyzing a data set or a learned model. In this way, the audiences will gain access to immersive learning experiences. We believe that this interactive approach will help the audiences to better understand the bits and pieces of the methods by interacting and experimenting with the articles.

The authors are required to submit a 2-page extended abstract, which describes the main concepts or methods the authors want to explain to the readers. In addition, the authors need to build a webpage as specified below to publish the full article on IEEE Xplore where the authors explain the concepts or methods of AI using interactive approaches to the readers.

Topics

We welcome articles addressing topics related to AI techniques. The topics of interest include, but are not limited to:

- Neural Networks
- Fuzzy Systems
- Evolutionary Computation
- Machine Learning
- Data Mining and Knowledge Discovery
- Problem Solving and Search
- Learning Theory

Submission

A submission includes (1) extended abstract and (2) full article:

(1) Extended abstract

- A 2-page abstract summarizing the methods discussed in the interactive article. After acceptance, this extended abstract will be published in the *print* version of CIM.
- The IEEE standard format must be used for the extended abstract. More information can be found at <https://cis.ieee.org/publications/ci-magazine/cim-information-for-authors>. Please submit the extended abstract as the “main article” in the ScholarOne manuscript system.

(2) Full article

- An interactive full article that can be of arbitrary length but should be concise in its explanation and cover a topic of limited scope. After acceptance, the article will be published in CIM at *IEEE Xplore*.
- The interactive article should consist of at least 3 interactive components that let the authors directly engage with the article’s content and support the learning experience.
- For reviewing purposes, this article will be hosted by IEEE CIS and should therefore be prepared as such. Please provide a self-contained ZIP file containing your article and all its required files, including but not limited to the article following the template.html file provided by IEEE CIS, images, self-written scripts as well as external libraries and packages. Note that the authors need to make sure that the use of the external libraries and packages complies with copyright regulations. Please submit the ZIP file as a “supplementary” in the ScholarOne manuscript system.

- Example:
Alexander Dockhorn and Simon Lucas, “Choosing Representation, Mutation, and Crossover in Evolutionary Algorithms,” IEEE Computational Intelligence Magazine, Nov 2022.
- Template Files: https://cis.ieee.org/images/files/Documents/call-for-special-issues/ImmersiveArticleTemplate_v2_0.zip
- Template Instructions: https://cis.ieee.org/images/files/Documents/call-for-special-issues/immersiveArticle_Instruction_Guide_for_Authors.pdf

Important Dates

- Manuscript Due: **March 31, 2023**
- First Notification: May 15, 2023
- Revision Due: June 15, 2023
- Final Notification: July 15, 2023

Guest Editors

- **Pau-Choo Chung**, National Cheng Kung University, Taiwan
- **Alexander Dockhorn**, Leibniz University Hannover, Germany
- **Jen-Wei Huang**, National Cheng Kung University, Taiwan