

## **AI Ethics and Values in Biomedicine – Technical Challenges and Solutions**

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There is increasing recognition of the need to ensure better consideration of ethics and values in artificial intelligence (AI) applications for biomedicine. This 3-hour workshop will provide an overview and discussion on the technical challenges and potential solutions that can enable ethical and value-based AI algorithms and tools in biomedicine. Five expert speakers will present their work and engage the audience in discussion with the aim of defining the best ways to move forward.

*Keywords:* Artificial Intelligence; AI ethics; AI values, AI bias, explainability

### **1. Introduction**

We are witnessing the emergence of an “AI economy and society”. AI technologies are increasingly impacting many aspects of modern life, including biomedicine and healthcare. However, AI systems may produce errors, can exhibit overt or subtle bias, may be sensitive to noise in the data, and often lack transparency and explainability. These shortcomings raise many ethical and policy concerns that impede wider adoption of this potentially very beneficial technology. These broad concerns about AI are often grouped under the rubric “AI Ethics and Values” and these issues are especially important in the biomedical area. The technical community, the media, as well as political and legal stakeholders have recognized the problem and have begun to seek solutions. Recent examples of such efforts include regulatory actions such as the EU GDPR privacy and data protection laws (May 2018), and the recent California Assembly endorsement of the 23 Asilomar AI Principles (see below).

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