**Preface**

How can health complications be better anticipated? One increasingly popular solution is artificial intelligence (AI), which has many important medical applications, such as guiding surgeons during minimally invasive procedures and predicting patients' health outcomes. Yet the rise of AI introduces questions about how one can responsibly use this technology and the role of different social groups in safeguarding against its dangers.

Can technology be used to better analyze and predict post-operative complications? This research project, supervised by Dr. Anil Vullikanti of the University of Virginia Biocomplexity Institute, aimed to enhance predictive models for post-operative complications in lung surgery patients. Using machine learning techniques such as decision trees, logistic regression, and support-vector machines on a dataset from the University of Virginia Hospital, comprehensive models capable of accurately assessing the likelihood of post-operative complications were constructed. The project team attempted to develop a tool doctors and researchers can use to better understand patient backgrounds and predict the post-surgical situation of future patients.

In what ways are social groups competing to influence the extent of discriminatory bias in AI tools? Responding to the risk of AI bias, social groups engage in advocacy, propose policy initiatives, and publicize their positions. With AI becoming more commonplace, different groups are increasingly recognizing the urgency of addressing bias in AI tools to ensure its equitable use across various fields, from education to the criminal justice system.