The rapid advancement of artificial intelligence (AI) has raised significant concerns, leading to calls for a world summit or a moratorium on the development of AI systems more powerful than GPT-4. Addressing these challenges is vital for ensuring AI upholds fundamental rights, freedoms, and values in Western societies, which necessitates the adoption of comprehensive legal and economic frameworks. International efforts are underway to regulate AI, with the European Union at the forefront through proposals such as the AI Act, AI Liability Directive, and Defective Product Directive. These initiatives aim to develop AI systems that are accurate, safe, transparent, robust, reliable, and fair by establishing a liability regime and defining compliance obligations and control procedures. Our interdisciplinary research team integrates law, mathematics, machine learning, and economics, with the objective of fostering an AI ecosystem that is efficient, economically viable, and respectful of rights, liberties, and social welfare. Our comprehensive research agenda focuses on several key areas, including evaluating the loyalty and legality of AI systems, refining algorithm audit processes, investigating methods to enhance algorithms, and developing algorithms that prioritize citizen welfare and societal impact. Our ultimate goal is to establish an AI ecosystem of trust based on economic self-regulation and legal adherence, thus laying the groundwork for a sustainable and responsible future in AI technology.