

Malik Magdon-Ismail

Professor, Computer Science at Rensselaer Polytechnic Institute

Troy, NY, US

Learning from data and decision-making in complex data systems

Biography

Malik Magdon-Ismail, a professor of computer science at Rensselaer Polytechnic Institute, is an expert in learning from data and decision-making in complex data systems. In his work, Magdon-Ismail mixes theory with validation through experiment or practice. During the COVID-19 pandemic, he developed algorithms predicting aspects of the pandemic in small cities and school campuses. COVID War Room predicts the spread and severity of COVID-19 in small cities and counties through the United States and in select international locations. Building on the predictive power of the COVID War Room algorithms, Magdon-Ismail built COVID Back-to-School, a series of algorithms that make it possible to quantify the impacts of policy choices on the spread of COVID in a campus environment. Other work include contributions to an intriguing project modeling stellar tidal streams from galactic collisions, mathematical models for optimal decision in a representative democracy, separating terrorist-like topological signatures embedded in benign networks, and understanding supercomputer failures using neuromorphic computing.

Areas of Expertise

Probability and Stochastic Processes, Pattern Recognition, Machine Learning, Big Data, Algorithms, Data Mining, Social Networks, Computational Finance

Education

Yale University

B.S. Physics

California Institute of Technology

M.S. Physics

California Institute of Technology

Ph.D. Electrical Engineering

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