Research Project

Nitrogen dioxide, sulphur dioxide, and carbon monoxide are important environmental markers that determine air quality and influence climate. To study their distribution and impact, scientists often use coupled meteorology – chemistry models, however, their utility is marred by large biases in their simulations. In my work, I am using deep learning algorithms to learn and predict model – observation mismatch. With this technique, I aim to reduce this bias in order to improve the model accuracy. Less biased models offer more utility in making air quality forecasts and estimating the impact of chemistry constituents on the climate system.