Generated Abstracts

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Num_Anal Model

Model 4

It is shown that detection and estimation of partially-observed dynamical systems can be performed with little to no knowledge about the background disturbances and with only an upper bound on the probability of detection failure. This type of problem occurs in the study of optimal compensation problems involving competing principals. To our knowledge, no study has been performed on the enrichment impact of a learning database on the steganalysis performance. However, such a formulation usually involves a precise modelling of these adverse effects as well as the setting of the corresponding parameters, which is not always feasible or realistic. Yet, a vast majority of the literature regarding Bayesian inference for such systems ignore these undesired effects and assume that pre-processing can be applied to remove them.

Machine Learning Model

Model 1

On the basis of this study, we propose and demonstrate experimentally, by femtosecond laser writing, directional couplers that are free from this problem and also yield a polarization independent power-splitting ratio. We then investigate Bose-Einstein condensation of pairs and prove, as a main result, the existence of condensation whenever the Hamiltonian has a non-trivial discrete spectrum. Unfortunately, there is no single best technique for nonparametric regression. Based on our recent results on multichannel metasurfaces, we propose a new concept of asymmetric absorbers in which the absorption coefficient for waves impinging from a given oblique angle is extraordinarily different from that for waves incident from the oppositely tilted direction. Instead, we provide a guide for how astronomers can choose the best method for their specific problem and provide a python library with both wrappers for the most useful existing algorithms and implementations of two new algorithms developed here.

Energy Physics Model

Model 3

For the pseudoscalar-pseudoscalar and the vector-vector cases, their unsatisfactory OPE convergence makes that it is of difficulty to find rational work windows to further acquire hadronic masses. In particular, we found that the presence of confined water is the main responsible for the observed spectral complexity. The grounds of interpretation of Raman spectra in these cases is the isolated macromolecules constituent vibrational assignment. Besides some apparent similarities between the surface plasmon frequencies in massless Dirac plasmas and Fermi plasmas, several notable differences are also found and discussed. Our results indicated that important spectral features correlated to molecular characteristics have been ignored within the usual tissue spectral bands assignments.

Distributed Model

Model 5

In this research, we propose NEC2DQN that improves learning speed of a poor sample efficiency algorithm such as DQN by using good one such as NEC at the beginning of learning. This occurs because of Maxwell equations acquire a symmetrical structure due to the existence of electric and magnetic charge current densities. However, most experimental implementations aiming for high values of the Bell parameter suffer from the defect of showing signaling. This signaling can be attributed to systematic errors occurring due to weaknesses in the experimental designs. Here we point out the importance, for quantitative applications, to identify and address this problem.

Crypto Model

Model 1

Experiments show that MAttNet outperforms previous state-of-art methods by a large margin on both bounding-box-level and pixel-level comprehension tasks. This allows us to flexibly adapt to expressions containing different types of information in an end-to-end framework. Then, by confinement to weak transformation neighbourhoods and by applying the Cauchy-Born rule we are able to use the symmetries continuum mechanics utilizes: geometric symmetries. While the heuristic approaches produce considerable biases even on unrealistically simple images, the reconstruction-based approach accurately measures particle positions even in complex, highly realistic images. This is done for the symmetry hierarchies that describe how symmetry changes at the continuum level: $6\nu 2\nu \to \mathcal{C}_1$ for monoatomic 2-nets and $6\nu 1\nu \to \mathcal{C}_1$ for diatomic two nets.