



High Dimensional Nonstationary Time Series

# IRTG 1792 Short Course

**Yang Wang**

## Generative Adversarial Networks



Generative Adversarial Nets (GAN) have received considerable attention since the 2014 groundbreaking work by Goodfellow et al. Such attention has led to an explosion in new ideas, techniques and applications of GANs. To better understand GANs we need to understand the mathematical foundation behind them. This paper attempts to provide an overview of GANs from a mathematical point of view. Many students in mathematics may find the papers on GANs more difficult to fully understand because most of them are written from computer science and engineer point of view. The aim of this paper is to give more mathematically oriented students an introduction to GANs in a language that is more familiar to them.

*Prof. Yang WANG took office as Vice-President for Institutional Advancement of the Hong Kong University of Science and Technology (HKUST) on October 1, 2020. He is also a Chair Professor of Mathematics. He joined the HKUST as the Head of the Department of Mathematics in 2014 and he became the Dean of School of Science in 2016. Prof. Wang is an internationally respected scholar with wide ranging research interests, having published over 100 research journal papers in both pure and interdisciplinary mathematics, many of which in top journals. During his tenure as Dean of Science and Head of Mathematics, Prof. Wang founded the HKUST Big Data Institute and launched the popular Big Data Technology MSc program. Prof. Wang received his Bachelor degree in Mathematics from the University of Science and Technology of China in 1983 and obtained his PhD degree in Mathematics from Harvard University in 1990.*

**February 25, 2021 | 10:00-11:30 (CET) | Online via Zoom**



[irtg1792.hu-berlin.de](http://irtg1792.hu-berlin.de)



Freie Universität Berlin



**RATIONALITY  
& COMPETITION**  
CRC TRR 190



Berlin  
Mathematical  
School

HUMBOLDT GRADUATE SCHOOL

