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Course

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Joseph Lizier edited this page on 11 Oct 2021 \cdot 12 revisions

Under construction

This page will host our course on "Information Theory for analysing Complex Systems", providing the student a theoretical introduction to the relevant tools from information theory, and a practical guide to using JIDT for such analysis. Substantial content will be provided here, including video lectures, tutorial activities and sample code.

Short video lectures are now available via this YouTube playlist



Lecture slides accompanying these are available in the course folder of the distribution (from v1.4.1), or see links below.

Lectures for each module are organised into 3 sections or blocks, each designed for ~4 weeks of content for a 12-13 week semester. These are available via the following:

- Module 0 -- Overview
- Section 1 -- Fundamentals of information theory
 - Module 1 -- Introduction to Information Theory
 - Module 2 -- What is information?
- Section 2 -- Empirical use of information theory and JIDT
 - Module 3 -- Getting to know JIDT
 - Module 4 -- Estimators and JIDT
 - Module 5 -- Statistical significance
 - Module 6 -- Self-organisation and case studies
- Section 3 -- Information dynamics: information processing in complex systems
 - Module 7 -- Information processing in complex systems
 - Module 8 -- Information storage
 - Module 9 -- Information transfer
 - Module 10 -- Effective network inference
- Module 11 -- Wrap up

A shorter introduction to JIDT is available as a Tutorial.

JIDT -- Java Information Dynamics Toolkit -- Joseph Lizier et al.

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Clone this wiki locally

https://github.com/jlizier/jidt.wiki.git