MA50248: SAMBa MRes Project

Developing clustering methods for conditional extreme value models

Student:	Patrick O'Toole
Supervisor/1st examiner:	Christian Rohrbeck
Second reader:	Thomas Burnett
Submission deadline:	6th September 2024

Project Description: Conditional extreme value models have proven useful for analysing the joint tail behaviour of random vectors. While an extensive amount of work to estimate conditional extremes models exists in multivariate and spatial applications, the prospect of clustering for models of this type has not yet been explored. This project will review existing methods in the area of conditional extremes models, and develop and research ideas on how some of these models can be embedded into a clustering framework. It will also involve the review of existing state-of-the-art clustering methods within extreme value analysis.

Project Guidelines: Every week the student will meet with the supervisor to give a short summary of the reading and work conducted over the past week. The student will conclude by writing a coherent and original exposition of the large majority of topics covered. The report should be approximately 40 pages in length.

Assessment

Personal Initiative:	10
Use of the Literature:	15
Presentation of Report:	15
Contents of Report (depth, breadth, accuracy):	50
Oral Presentation (Must be on 4th or 11th October):	10
TOTAL	100

Signatures

Student	Supervisor	Second Reader
Patrick O'Toole	Christian Rohrbeck	Thomas Burnett