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Faculty of Exact Sciences



ANNONCE DE SOUTENANCE DE THESE



Madame **BENCHOUAK Hadjer**
Soutiendra sa thèse de Doctorat En Sciences en Mathématiques
Spécialité : « Probabilités et Statistiques ».

Intitulée : « Estimation non-paramétrique de la médiane et du mode conditionnels dans un modèle de censure »

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Lieu : A la salle de conférences sise au Campus Ahmed Hamani – Zerzara - Université Constantine 1 Frères Mentouri.

Devant le jury :

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Abstract :

In this thesis, we are interested in non-parametric prediction according to the conditional mode and conditional quantile estimation. The models considered here are the randomly censored models, the first according to Turnbull (1974), we observe in this context the $\max(\min(X, R), L)$ with $L \leq R$ almost surely and which is used in different practical fields.

The second model according to Patilea et Rolin (2006) is similar to the double censored model but X , R and L are independent. We reserve a chapter to construct a conditional quantile estimator when the variable of interest is twice censored, then we study the uniform almost complete convergence by specifying the rate of convergence, under usual conditions. Another interesting topic is to propose and study a kernel estimator of the conditional mode function for a sample consisting of r.r.v. variables and such that the variable of interest is subject to double censoring. We prove the almost sure convergence of this estimator. Finally, we establish its asymptotic normality. Simulation studies are conducted in order to the behavior of our estimators for a sample of finite size and to validate our results of asymptotic normality. Finally we apply our conditional mode estimator on heart transplant data from Stanford, basing on the work of Miller et Halpern (1982) 85 Bibliographie 86 and Shen (2012).