Teme diplomskih radova

akademska godina 2023./2024.

1. **Procjena parametara miješane normalne distribucije**
   Preporučena literatura:
   - B. S. Everitt , D. J. Hand (1981.) *Finite Mixture Distributions*, Chapman & Hall
   - V. H. Lachos Davila. C. R. Barbosa Cabral, C. Borelli Zeller (2018.) *Finite Mixture of Skewed Distributions*, Springer
   - D. M. Titterington, A. F. M. Smith, U. E. Makov (1985.) *Statistical Analysis of Finite Mixture Distributions*, Wiley
   - B. Ghojogh, A. Ghojogh, M. Crowley, F. Karray (2020.) *Fitting a Mixture Distribution to Dana: Tutorial*, preprint
   - *R paket LaplacesDemon, Mixture of Normal Distributions*:
     https://search.r-project.org/CRAN/refmans/LaplacesDemon/html/dist.Normal.Mixture.html

2. **Procjena parametara Cox-Ingersoll-Ross procesa**
   Preporučena literatura:
   - S.Svoboda (2004.) *Interest Rate Modelling*, Palgrave Macmillan UK
   - R. V. Arevalo, J. C.Cortes, R. J. Villanueva (2016.) *The Cox-Ingersoll-Ross interest rate model revisited: Some motivations and applications*, preprint
   - S. M. Iacus (2008.) *Simulation and Inference for Stochastic Differential Equations,* Springer
   - P. E. Kloeden, E. Platen, H. Schurz (1994.) *Numerical Solution of SDE Through Computer Experiments*, Springer
   - G. N. Milstein, E. Platen, H. Schurz*, Balanced Implicit Methods for Stiff Stochastic Systems*, SIAM Journal of Numerical Analysis, 35 (1998) 1010-1019

3. **Neuronske mreže – pogled u blackbox**
   Preporučena literatura:
   - K. P. Murphy (2022.) Probabilistic Machine Learning, The MIT Press
   - V. N. Vapnik (2000.) The Nature of Statistical Learning Theory, Springer
   - G. James, D. Witten, T. Hastie, R. Tibshirani (2021.) An Introduction to Statistical Learning with Applications in R, Springer
   - T. Hastie, R. Tibshirani, J. Friedman (2017.) *The Elements of Statistical Learning – Dana Mining, Inference and Prediction*, Springer
   - M. Anthony and P. L. Bartlett (1999.) Neural Network Learning: Theoretical Foundations, Cambridge University Press

4. **Procjena autokorelacijske funkcije difuzije**
   Preporučena literatura:
   - J. L. Forman (2007.) *Statistical Inference from Diffusion Driven Models*, Ph.D. Thesis
   - S. M. Iacus (2008.) *Simulation and Inference for Stochastic Differential Equations,* Springer
   - A. C. Guidom, K. Boukhetala (2016.) *Estimation of Stochastic Differential Equations with Sim.DiffProc R Package*, https://cran.microsoft.com/snapshot/2016-06-17/web/packages/Sim.DiffProc/vignettes/FitSDE.pdf

5. **Procjena parametara difuzija korištenjem procjeniteljskih funkcija**
   Preporučena literatura:
   - M. Sorensen (2008) *Estimating Functions for Diffusion-type Processes*, Department of Mathematical Sciences, University of Copenhagen
   - B. M. Bibby, M. Sorensen (1995) *Martingale estimation functions for discretely observed diffusion processes*, Bernoulli, 1(1-2), 17-39
   - M. Sorensen, J. L. Forman (2008) *The Pearson Diffusions: A Class of Statistically Tractable Diffusion Processes*, Scandinavian Journal of Statistics, 35(3), 438-465