

Conférence

"Séries temporelles"

Vendredi 4 mars 2022 de 9h à 11h30

Amphi E – Faculté des Sciences d'Angers

organisée par Fabien PANLOUP, David ROUSSEAU, Frédéric SAUBION.

9H-10H Germain Forestier, Enseignant-chercheur, Université de Haute Alsace (invité)

Titre: Deep Learning for Time Series Classification

Summary: In recent years, deep learning approaches have demonstrated a tremendous success in multiple domains like image processing, computer vision or speech recognition. In this talk, I will review recent advances in deep learning for univariate and multivariate time series classification. I will present experimental results obtained with the main architectures proposed in the literature. I will also discuss the main challenges linked with the use of deep learning like transfer learning and data augmentation. I will present some applications in the field of Surgical Data Science and Satellite Image Time Series analysis.

Short bio:

Prof. Germain Forestier received his PhD in Computer Science from the University of Strasbourg in 2010. He then spent one year as a postdoctoral fellow at INRIA Rennes / INSERM (French National Institute for Medical and Health Research), where he worked on biomedical data analysis. In September 2011, he obtained a position of Associate Professor at the University of Haute-Alsace (France) and is now Professor since 2018. Prof. Forestier also holds a position of Associate Professor (Adjunct) at the Monash University (Australia). His research interests include data science, data mining, time series, machine learning, big data, artificial intelligence and deep learning.

More info: <https://germain-forestier.info/>

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10H-11H Frédéric Proïa, Enseignant-chercheur, LAREMA, Univ Angers.

Titre : Autorégressions à coefficients variables

Résumé : Le modèle autorégressif est probablement le plus connu pour décrire une évolution chronologique linéaire. On commencera par passer en revue ses principales propriétés et celles de ses estimateurs, avant de s'intéresser à une classe beaucoup plus large d'autorégressions : celles dont les coefficients évoluent avec le temps. On proposera quelques résultats sur l'estimation d'un tel processus dans le cas où les coefficients sont aléatoires et dans le cas où les coefficients forment une suite qui, tout en garantissant la stabilité, converge vers un état instable.

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11H-11H30 Pejman RASTI, Enseignant-chercheur LARIS-ESAIP

Titre : Real-time students' engagement monitoring based on temporal Information in Video

The disengagement problem among students has become acute in the modern age due to numerous distractions and a lack of student-teacher interaction. It becomes increasingly difficult for teachers to monitor students' engagement in large classrooms and maintain the necessary level of interactions when there are many students. The traditional method of measuring student engagement relies on self-reports and physical devices, which are not useful in a classroom environment. Analysis of academic affective states (e.g., moods, emotions) of students has the potential to create intelligent classrooms able to automatically track and analyze students' engagement and behavior. In this presentation, I would present a real-time deep learning-based system for student group engagement monitoring by analyzing their facial expressions.

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