



COMPUTER-AIDED DIGITAL ANALYSIS AND CLASSIFICATION OF SIGNALS



By computer-aided processing of non-stationary signals and the use of appropriate adaptive, data-driven algorithms, it is possible to detect significant underlying phenomena in data and use these extracted features in machine-learning based classification procedures.



INFO

CATEGORY

Research Project

RESEARCH FIELD

Technical Sciences

PERIOD

3 years (2019-2021)

MEMBERS

HEAD



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Head of Department of Computer Engineering

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ASSOCIATES

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Doc. dr. sc. Petar Šolić

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PhD Student Luka Baftić

PhD Student David Bačnar

PhD Student Franko Hržić

PhD Student Guruprasad Madhale Jadav

PhD Student Marinko Žagar

PhD Student Veljko Jardas

RESULTS (2019-2020)

13 Papers in CC, SCI & SCI-E

15 Papers at conferences

3 Chapters in books

CONTACT

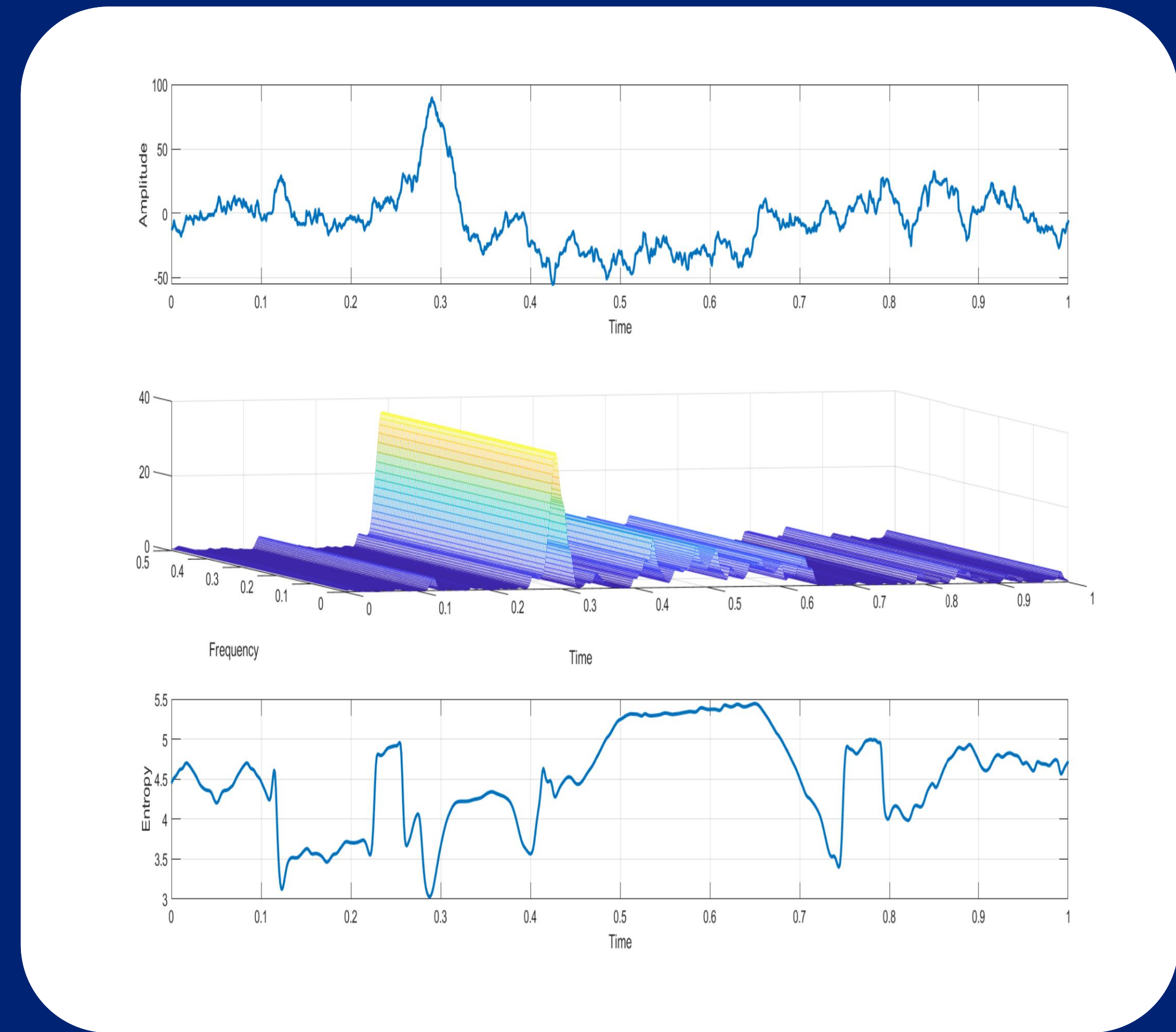
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ABOUT PROJECT

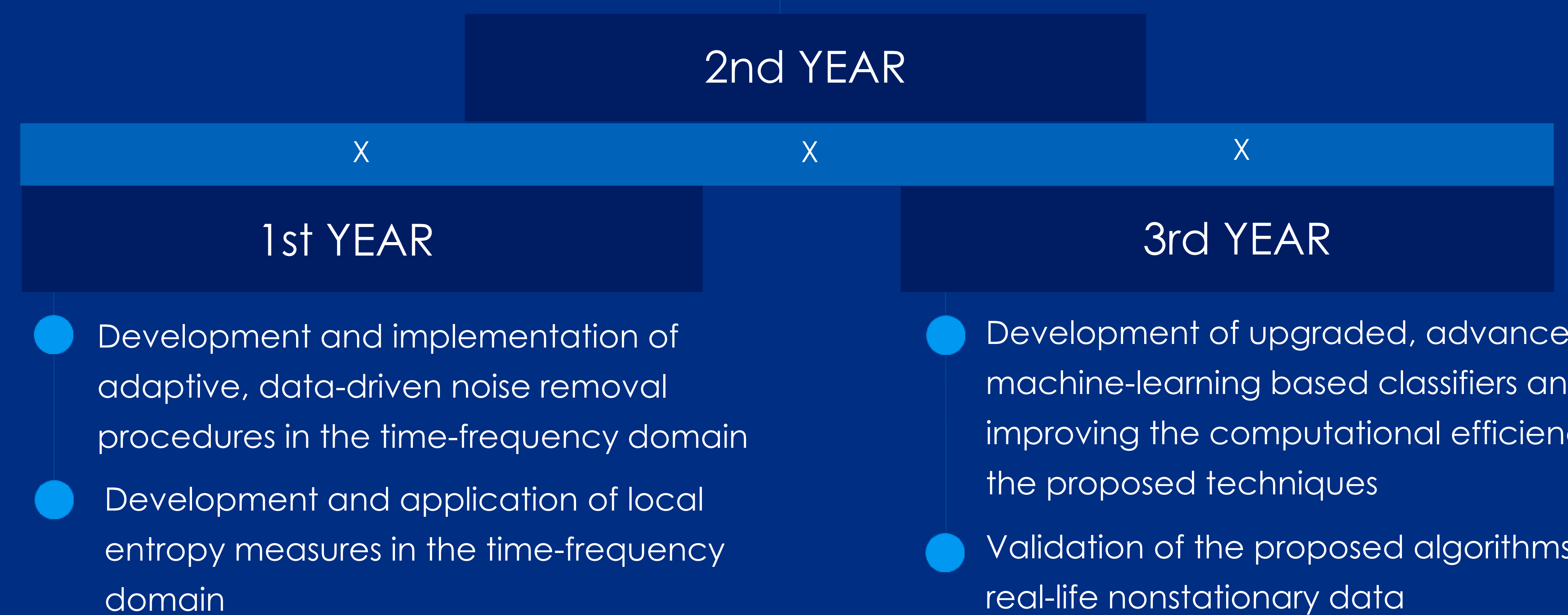
This research aims to develop and apply algorithms for processing data in the time-frequency domain and implement them to the analysis of real-life, multi-channel, multi-componential, and non-stationary signals from various fields such as biomedicine, seismology, radar signals, and/or ship navigation signals.

We aim to develop adaptive, data-driven, and (local) entropy-based algorithms for localization and extraction of signal components and useful information in intensive noise scenarios.



PROJECT TIMELINE

- Entropy-based extraction of useful information from data in intensive noise scenarios
- Development of algorithms for features extraction from noisy, nonstationary signals and their use for machine-learning based classification of multicomponent signals



COLLABORATION



Research collaborations at the University of Rijeka level, national level (University of Split, University of Pula, and University of Zadar), and international level (Japan, Hungary, and Slovenia)

Contribution to outgoing and incoming mobility of scientists

Solving real-life problems and strengthening the mechanisms for knowledge transfer from academia to industry, and vice versa