

In This Issue. . .

- **Recent Reviewed Book chapters:** Optimization in Machine learning and Applications
- **Upcoming Elective course offered for research scholars:** Pattern Recognition and Computational Intelligence
- **On-going research:** Current research works in PRCI Lab.

Dear friends! **COMPSIG NITT** is a monthly newsletter to share the research work done in the Pattern recognition and computational intelligence laboratory, Department of Electronics and Communication Engineering, National Institute of Technology Trichy.

Concepts, Ideas pertaining to Computational intelligence, Pattern recognition and Signal processing are also included in this newsletter.

We expect the feedback, comments and articles from you all.

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Team members

1. **Dr.E.S.Gopi, Co-ordinator.**
2. **G.JayaBrindha, Ph.D. Scholar.**
3. **Neema. M, Ph.D. Scholar.**
4. **Rajasekharreddy Poreddy, Ph.D Scholar.**
5. **Vinodha K, Ph.D Scholar.**
6. **Shailendra Singh, M.Tech, Communication systems.**
7. **Mayank Lauwanshi, M.Tech, Communication systems.**

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AUDIO SLIDES

Pattern recognition

Pattern Recognition was offered as a global elective course for UG second, third and fourth years. As a part of the continuous assessment, the students were divided into groups and each group was asked to prepare an audio slide on the topic allotted to them. The topics mainly covered different techniques in pattern recognition.

Linear Algebra And Stochastic Process

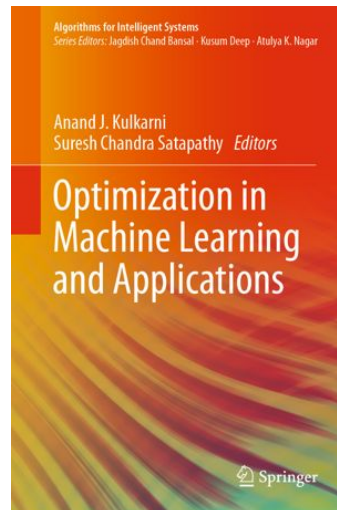
Linear Algebra And Stochastic Process was offered as a core course for PG students and research scholars. The students were divided into groups and each group was asked to prepare an audio slide on the topic allotted to them. The topics mainly covered different techniques in Linear Algebra And Stochastic Process and how it's used in the research field.

Link to the Audioslides: [UG](#)

Link to the Audioslides: [PG](#)

Recent Reviewed Book chapters

- Sankar N Nair, E.S.Gopi, "Deep Learning Techniques for Crime Hotspot Detection", Springer, 2020
- Shaik Mahammad, E.S.Gopi, Vineetha Yogesh, "The Roulette Wheel selection based Computational Intelligence technique to design an efficient transmission policy for Energy Harvesting Sensors" , Optimization in Machine learning and Applications", Springer, 2020



[Back to Contents](#)

Upcoming Elective course offered for research scholars

Pattern Recognition and Computational Intelligence is offered as a elective for M.Tech in next semester (II semester) by Dr. E.S.Gopi, Associate Professor, Dept. of ECE.If you are interested,fill the Google form for expression of interest. The outcomes of the course are,

- Summarize the various techniques involved in pattern recognition.
- Identify the suitable pattern recognition techniques for the particular applications.
- Categorize the various pattern recognition techniques into supervised and unsupervised.
- Summarize the mixture models based pattern recognition techniques.
- Summarize the various computational intelligence techniques for pattern recognition.
- Tutorial on MATLAB/Python programming.

Expression of interest through the link: [Link for PRCI](#)

Link to the book: [Pattern Recognition and Computational Intelligence Techniques Using Matlab](#)

[Back to Contents](#)

On-going Research

- Investigating Regression techniques for solving the sunflower leaf segmentation problem
- Application of machine learning techniques in next generation wireless communication
- Classification of Music composition styles using probabilistic generative model
- Engine health monitoring using Machine learning, Deep learning and Computational intelligence
- Power allocation & Capacity maximization in NOMA using computational intelligence
- Millimeter wave channel estimation using computational Intelligence

[Back to Contents](#)

Workshop on Machine Learning, Deep Learning and Computational Intelligence for Wireless Communication (MDCWC2020)

Due to the feasibility of collecting huge data from mobile and wireless networks, there are many possibilities of using Machine learning, Deep learning and the Computational Intelligence to interpret and to hunt knowledge from the collected data. The workshop aims in consolidating the experimental results integrating the Machine Learning, Deep Learning and Computational Intelligence for Wireless Communication. The workshop invites original research contributions in the following data driven wireless communication applications (Not limited to) implemented using one or more of the following ML, DL and Computational intelligence algorithms.

Link to the [brochure,website](#)

Reference for related works

- [Machine Learning Paradigms for Next-Generation Wireless Networks](#)
- [Machine Learning for Wireless Communication Channel Modeling: An Overview](#)
- [CRAWDAD dataset](#)
- [UMass Trace Repository](#)

[Back to Contents](#)

Quotes

"We must think and act like a nation of a billion people and not like that of a million people. Dream, dream, dream!" — Dr. A.P.J.Abdul Kalam

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Feedback

COMPSIG NITT invites articles and innovative ideas from readers for the [Reader's Space](#) column. We expect feedback and comments to monthly newsletter [COMPSIG NITT](#) . Readers can share their views in our facebook page, [COMPSIG-NITT](#). Those who are interested can be a part of the facebook group.

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[Back to Contents](#)

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