In This Issue. . .

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.

Volume 6, Issue 5: May 2020

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.**

Scan the QR code for previous issues of our newsletter

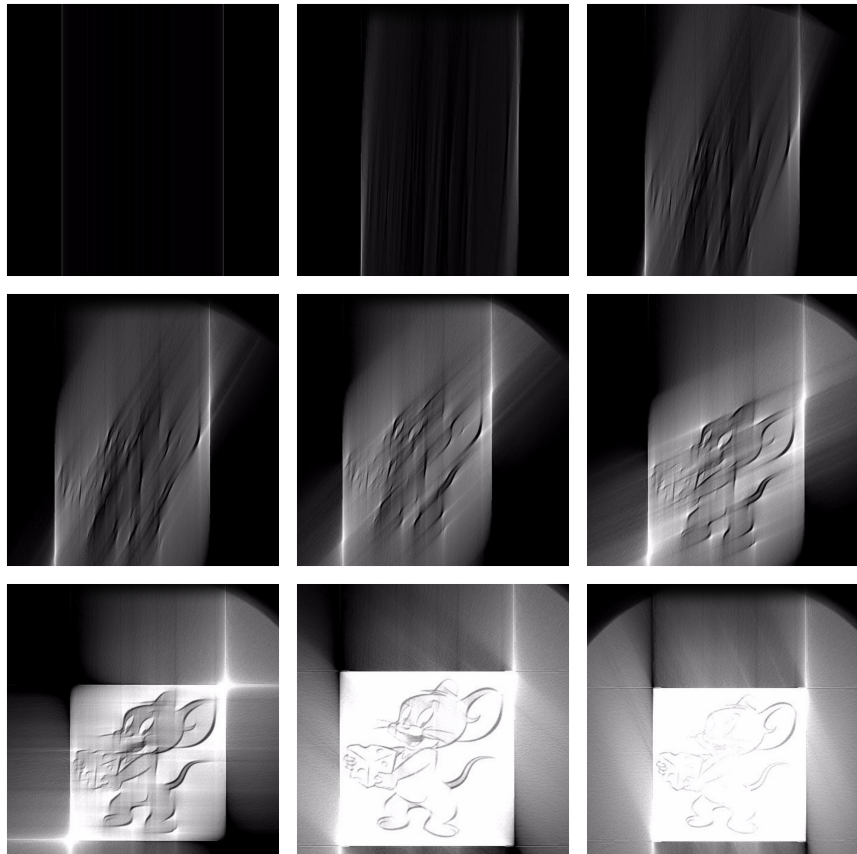# Video Illustration on image reconstruction using Radon transformation

Figure 1. Illustration of reconstruction of the image obtained by cumulative summation of filtered parallel beam backprojection images.

The Figure shows the snapshots of the intermediate images obtained during the process of reconstructing the images. It is based on the illustration from the book DSP for Medical imaging using MATLAB.

Link to the video illustration: Reconstructed image using Radon transformation

Link to the book : DSP for Medical imaging using MATLAB

Back to Contents

MDCWC 2020 ONLINE WORKSHOP

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.

Important Dates

Online Workshop: 22nd **October to** 24th **October**

Last date for submitting the papers through easychair: 31st **August** 2020 All the accepted papers will be published as the chapter in the Lecture Notes in Electrical Engineering, Springer publications(ISI Proceedings, EI-Compendex, Scopus, Meta press, Web of science) The workshop invites original research contributions/

1. The data driven wireless communicationapplications using ML, DL and CI
2. Optimization algorithm/technique for ML, DL and CI
3. Related mobile data applications

- Status of the submitted papers will be intimated immediate after the review gets over.
- Registration needs to be done within 10 days after getting the notification along with the revised paper and copyright form. Payment throughSBI
- Registration is complete once the filledup Google form is submitted: Author registration Participants
- Link to the brochure
- Link to the Website

Topics (Not limited to)

- **Machine Learning**
  Multiple input multiple Output regression, Probabilistic discriminative approach, Multi-class Logistic Regression, Probabilistic generative model, Support Vector Machine, Dimensionality reduction Techniques.
- **Deep Learning**
  Multilayer perceptron, Boltzmann Machine, Auto-Encoders, Convolution Neural Network, Recurrent Neural Network, Generative Adversarial Network,Deep Reinforcement Learning
- **Computational Intelligence**
  Particle Swarm Optimization, Bacterial Foraging, Simulated Annealing, Ant Colony Technique, Genetic algorithm, Social Emotional Optimization Algorithm, Social evolutionary Learning Algorithm
- **Optimization algorithms**
  Adagrad, Adadelta, RMSprop, Adam, SGD
- **Mobile data applications**
  Mobile health care, Mobile pattern recognition, Natural language processing, Image processing
- **Wireless Communication**
  Network prediction, Traffic classification, Call detail record mining, Automatic speech processing, Mobility Analysis, Indoor Localization, Energy minimization, Routing, Scheduling, Resource allocation, Multiple access, Power control, Malware detection, Cyber security, Flooding attacks detection, Mobile apps sniffing

Back to Contents

Quotes

"God, our Creator, has stored within our minds and personalities, great potential strength and ability. Prayer helps us tap and develop these powers" — *Dr.A.P.J.Abdul Kalam*

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

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, COMPSIGNITT. Those who are interested can be a part of the facebook group.

Follow us on Research gate: COMPSIG NITT

Back to Contents

Contact Information:

Pattern Recognition and Computational Intelligence Laboratory,
Department of Electronics and Communication Engineering, National Institute of Technology Trichy - 620015
E-mail:esgopi@nitt.edu