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1.	**Authors:** Sumathi K, Vijayachitra S **Paper Title:** Extended Kalman Filter Based State Estimation of Stepper Motor	1-5

Abstract: State estimation process is one of the major concerns for controlling and monitoring systems in industry which requires high-cost measurements or involves unmeasurable variables of nonlinear systems. These drawbacks can be highly eliminated by designing systems without using any kind of sensors. In the proposed work, the state estimation technique is used for the state estimation of stepper motor. The theoretical basis of Extended Kalman Filter algorithm is explained in detail and its performance is tested with simulations. A stochastically nonlinear state estimator named Extended Kalman Filter is presented. The motor model designed for EKF application involves rotor speed, rotor position and stator currents of the stepper motor. Thus, by using this estimator the states of the stepper motor can be estimated.

Keywords: Extended Kalman Filter, non linear system, state estimation, stepper motor

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2.	**Authors:** Balvinder Kour, Randhir Singh, Parveen Lehana **Paper Title:** Effect of SVD Based Processing on the Perception of Voiced and Unvoiced Consonants	6-10

Abstract: Speech is a biomedical signal used by the human beings to communicate. It is generated by exciting the vocal tract from the impulses of the air coming from the lungs through the vocal cords. Sometimes, the speech generated may not be adequate for understanding or transmission. In that case, it is modified using the concepts of speech processing. In this paper the singular value decomposition (SVD) technique is used to process and the output are evaluated using informal listening tests for investigating its effect on perception. This technique may have applications in speech compression, speech enhancement, speech recognition, and speech synthesis. The speech signal in the form of vowels-consonant-vowel (VCV) was recorded for the six speakers (3 males and 3 females). These VCVs were analyzed using SVD based technique and the effect of the reduction in singular values was investigated on the perception of the resynthesized VCVs using reduced singular values. Investigations have shown that the number of singular values can be drastically reduced without significantly affecting the perception of the VCVs.

Keywords: Speech signal, Speech generation, Speech processing, Speech compression, Singular value decomposition.

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3.

Authors: **F.Vijay Amirtha Raj**

Paper Title: **Automatic Battery Charging Algorithms for Hybrid Electric Vehicles**

Abstract: Battery-charging algorithms can be used for either single or multiple-battery chemistries. Single-chemistry chargers have some advantages than multi chemistry chargers because of its simplicity and reliability. On the other hand, multi chemistry chargers, or "universal battery chargers," provide a practical option for multi chemistry battery systems, particularly for portable appliances, but they have some limitations. This paper proposes the design of a single chemistry intelligent battery charger that can be used for major batteries, i.e. Nickel-Metal-Hydride and Lithium-Ion batteries for use in Hybrid Electric Vehicles (HEV). The design is implemented using MATLAB Simulation Tool which monitors the battery status and parameters and controls the charging operation. This ensures complete, fast, and safe charging of the battery pack.

Keywords: Constant current (CC), constant voltage (CV), inflection point, open-circuit voltage (OCV), pulse charging, state of charge (SOC), trickle charging, voltage drop.

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4.

Authors: **Sudha.V, Jayashree.P**

Paper Title: **Lung Nodule Detection in CT Images Using Thresholding and Morphological Operations**

Abstract: Lung cancer which is among the five main types of cancer is a leading one to overall cancer mortality contributing about 1.3 million deaths/year globally. Lung cancer is a disease and it is characterized by uncontrolled cell growth in tissues of the lung. Lung nodule is an abnormality that leads to lung cancer, characterized by a small round or oval shaped growth on the lung which appears as a white shadow in the CT scan. An effective computer aided lung nodule detection system can assist radiologists in detecting lung abnormalities at an early stage. If defective nodules are detected at an early stage, the survival rate can be increased up to 50%. This paper aims to develop an efficient lung nodule detection system by performing nodule segmentation through thresholding and morphological operations. The proposed method has two stages: lung region segmentation through thresholding and then segmenting the lung nodules through thresholding and morphological operations.

Keywords: Computed Tomography, Morphological Operations, Segmentation, Thresholding.

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5.

Authors:	**Tanmaya Kumar Das, Dillip Kumar Mahapatra, Gopa Krishna Pradhan**
Paper Title:	**Overcoming the Challenges of Communication and Intercultural Problems in Managing Distributed Software Projects**

Abstract: Managing a large, distributed software-intensive system is a complex and intrinsically difficult task. The system is complex and can involve hundreds of staff, years of skilled effort, large budgets, and potentially thousands of activities. Many perspectives attest to the facts that the delivery of complex systems on time, within cost, and meeting customer requirements is a significant problem, and that the number of complex systems is increasing The most important factor that influences the management of geographically distributed software projects is communication among organizations, customers, the developing teams etc. This paper addresses the challenges of communication in managing these projects.

Keywords: Communication challenges, Collaborative tools, Cross cultural Communication, Distributed project management Media synchronization.

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