

Editorial

We are pleased to release the first issue of the thirteenth volume of the **Transactions on Machine Design**, which includes the papers below.

In the opening paper, “**Error Correction Technology for Welding Robots Based on Three-Dimensional Visual Localization**,” the author created a new welding robot through three-dimensional visual localization. This robot can promptly correct deviations in the welding seam’s position and shape, thus improving the welding accuracy. The author found that the welding seam error correction technology based on three-dimensional visual localization significantly reduces welding errors. The author claims that this research significantly benefits welding technology improvement.

In the next paper, “**Practical Evaluation Analysis of Intelligent Product Design Using the Decision Tree Algorithm**,” the author studied the algorithm’s fundamental principles and proposed a series of effective evaluation methods. The author viewed that the decision tree algorithm can be an effective tool to enhance the quality and competitiveness of business product design.

In the third paper, “**Module Design Research of Distributed Electrical Control System**,” the author developed the module design of distributed electrical control systems. They proposed an architecture to meet user requirements, which includes modular architecture, optimized communication protocols, and rational data transmission strategies. The experimental results demonstrated the feasibility and scalability of the proposed design. The authors claim that this work provides valuable references for engineering practices.

In the last paper, “**Initial Study on a Mechanical Starting Mechanism for Two-Stroke Free Piston Engine**,” the authors proposed a dual two-stroke FPE model using gasoline fuel and spark ignition. Thus, the Free-Piston Engine (FPE) offers a flexible alternative to conventional Internal Combustion Engines. The mechanical resonance starting method was experimentally validated, achieving the desired compression ratio.

We hope to bring more research to the following issues.

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