

A Retrospective on IEEE Control Systems Magazine

A Gallery of Cover Art

By Dennis S. Bernstein

IEEE Control Systems Magazine (CSM) spans the second half of the Control Systems Society's (CSS) first 50 years. Like *IEEE Transactions on Automatic Control* and *IEEE Transactions on Control Systems Technology*, the contents of the magazine over the years reflect the changing engineering interests of the CSS membership. While its sister publications emphasize publication of new technical results, including both theory and applications, the magazine has broader goals, namely, the dissemination of control technology to the widest possible audience. We hope that every reader—technical or nontechnical—will find something of interest in every issue. We are here to educate and inform readers, at all levels, of the depth and breadth of control system technology.

The most visible distinguishing characteristic of *CSM* is the tradition of using the cover to creatively illuminate the themes of the issue. Unlike the transactions, which devote their covers to the table of contents, the magazine cover provides a unique opportunity to illustrate an aspect of control technology. This tradition stems from the very first issue when Mo Jamshidi portrayed a gas combustor along with a block diagram of the control system.

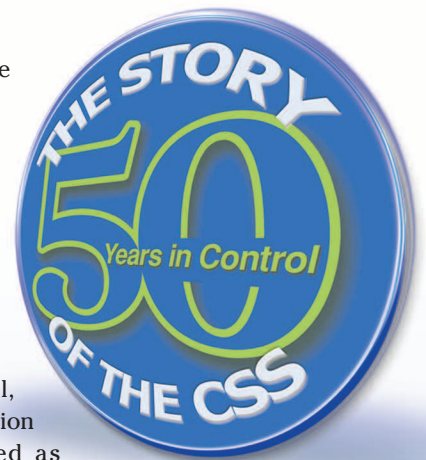
Over the years, the magazine covers have featured an amazingly diverse collection of control ideas and topics. Along with the expected collection of block diagrams, drawn in a wide range of styles, one can find some rather striking artwork. The ancient Chinese steering mechanism on the cover of the November 1984 issue is an excellent example. Aerospace systems are evident in several covers, including images of the Space Station, SR-71, and, of

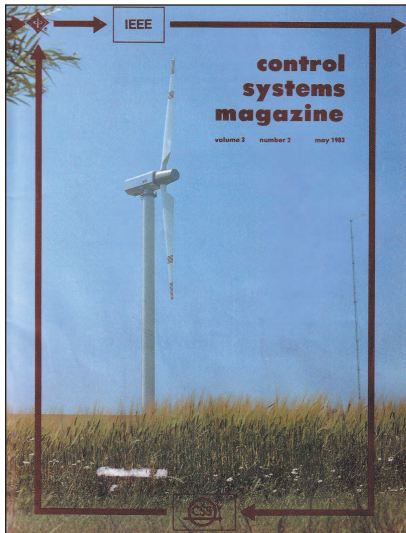
course, the Space Shuttle. Robotics, process control, automotive applications, computer-aided control design, wind power and power systems, process control, intelligent control, and control education have all appeared as cover topics multiple times.

Unconventional topics have also been showcased, including a robotic cow milker, bat-like sonar, machine vision, noise suppression, maglev transportation, biomedical applications, interactive learning, oil drilling, modern art (!), evolution-based methods, artificial muscles, networks, a walking robot (portrayed as a grade-B movie monster), software, control history, biomechanics, and agriculture. Several early covers are graced by the editor-in-chief, a long-lost tradition.

Cover design is the responsibility of IEEE. IEEE Senior Managing Editor Geri Krolin-Taylor works closely with Art Director Janet Dudar to develop cover ideas in consultation with the editor-in-chief.

Finally, we extend our thanks to Lila Spong, wife of CSS President-Elect Mark Spong, who engineered an ironing-based technique for removing mailing labels from *CSM* covers. Without her ingenuity, this gallery would not have been possible!

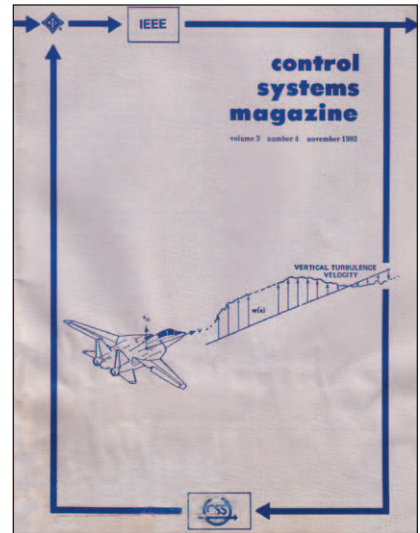




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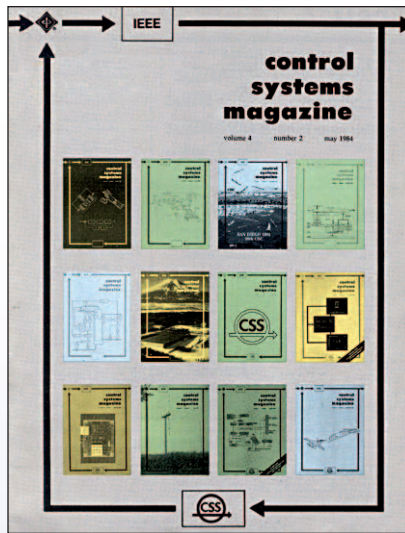
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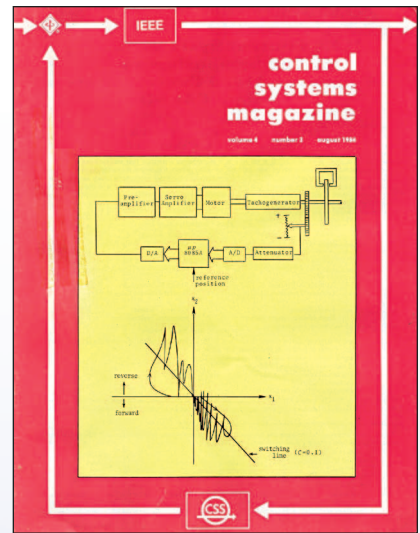
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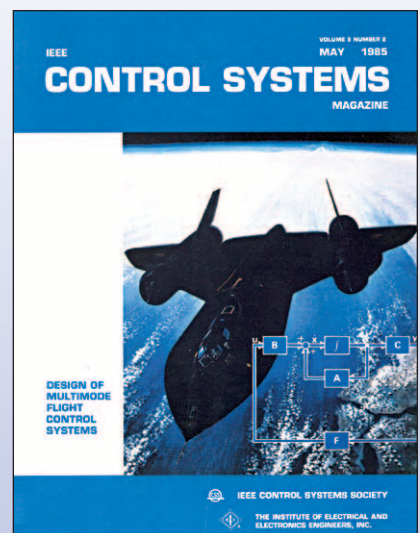
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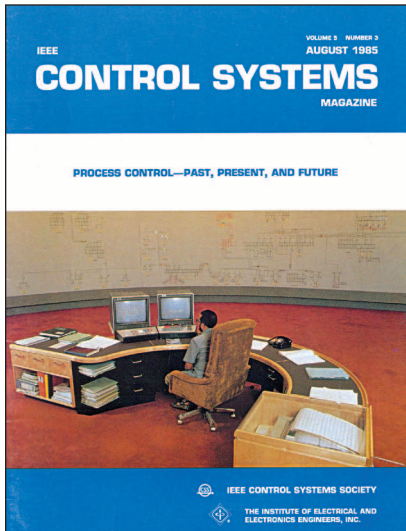
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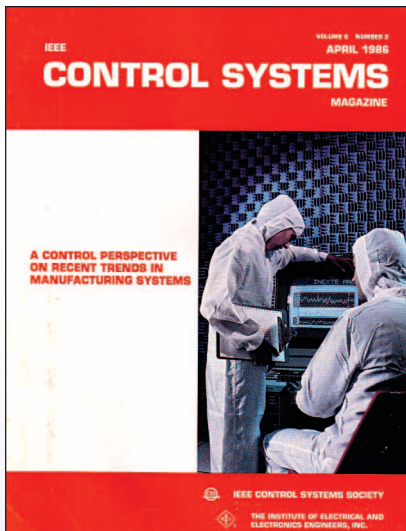
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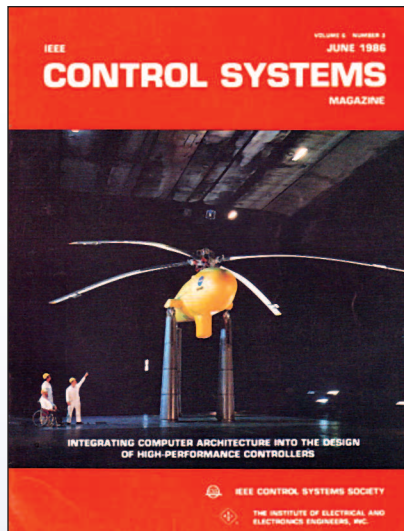
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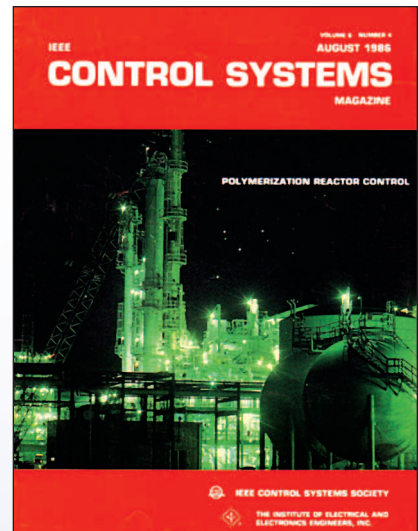
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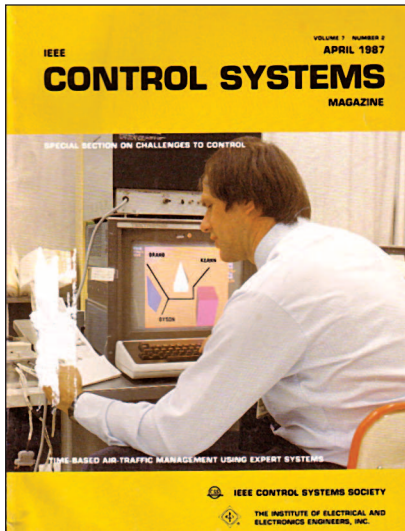
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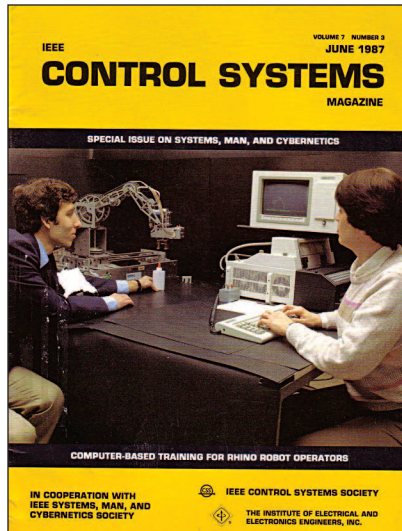
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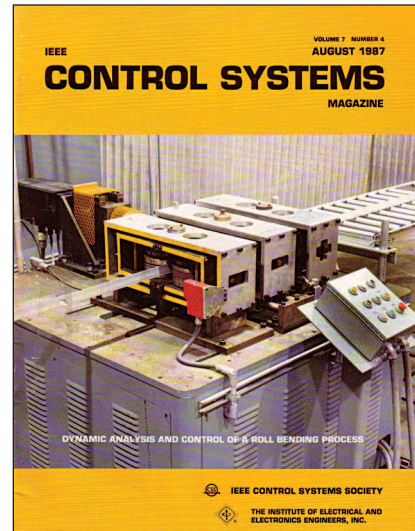
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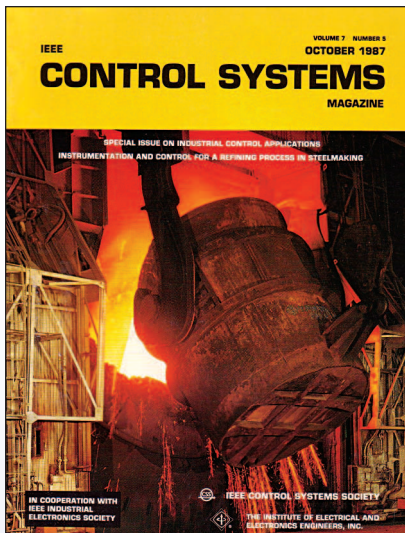
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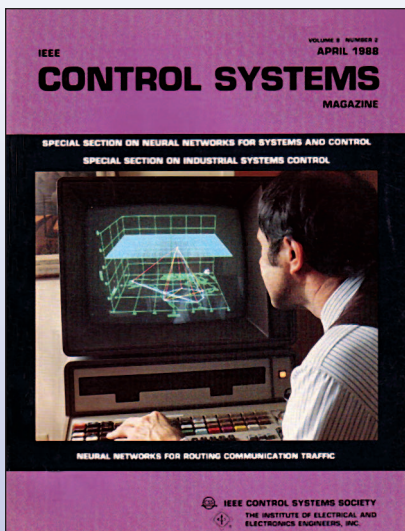
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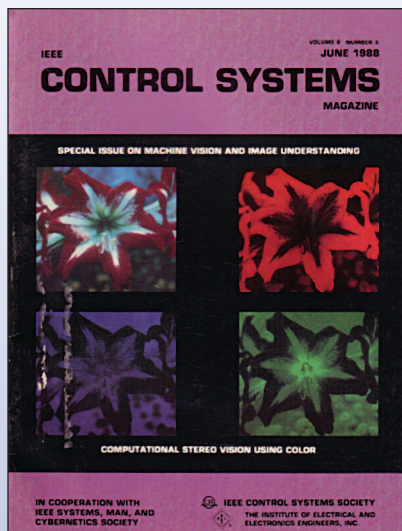
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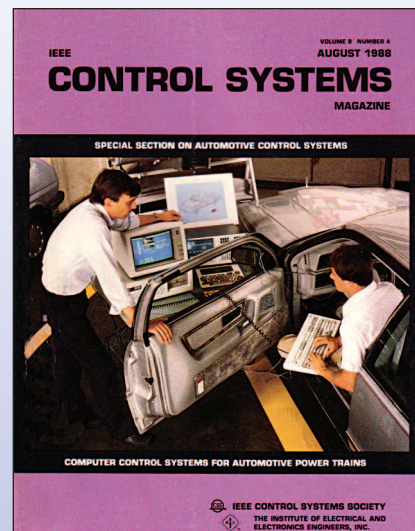
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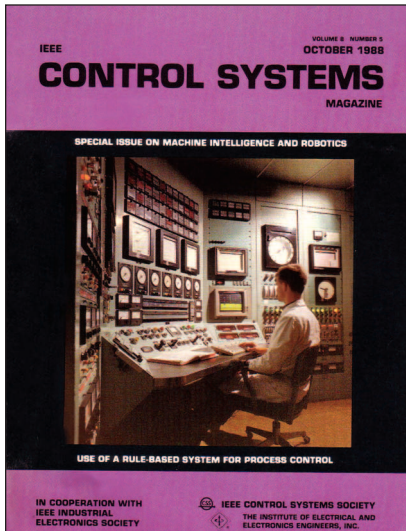
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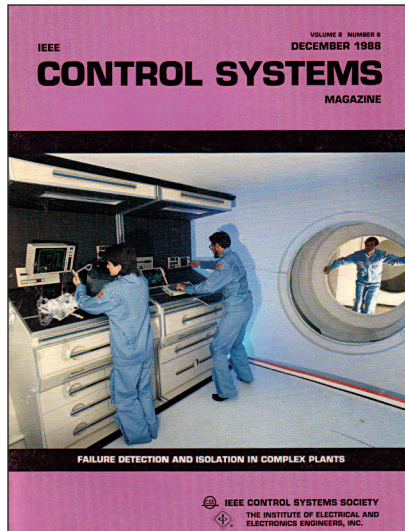
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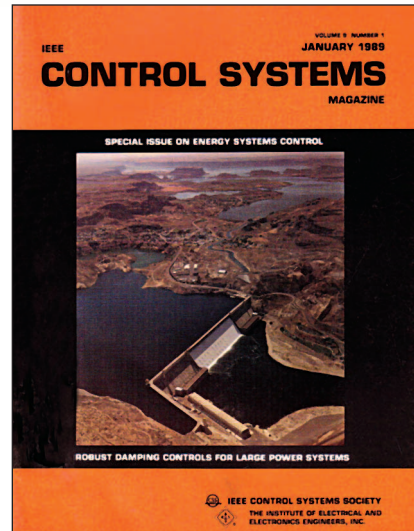
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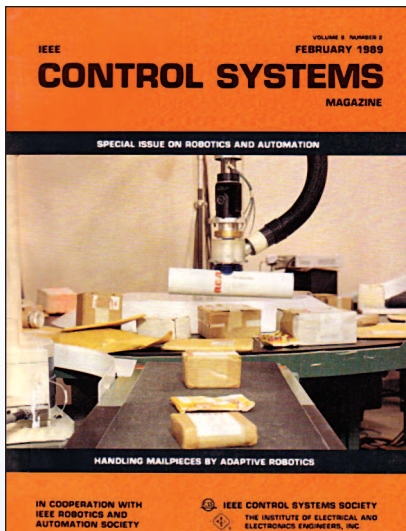
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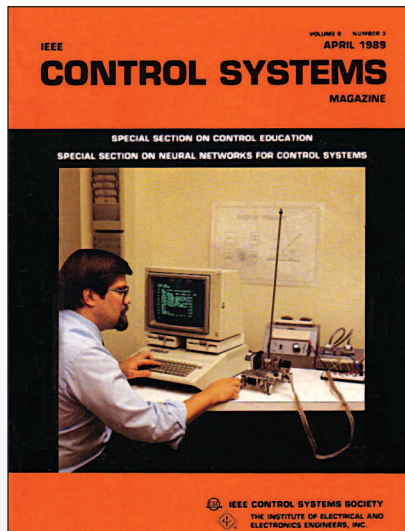
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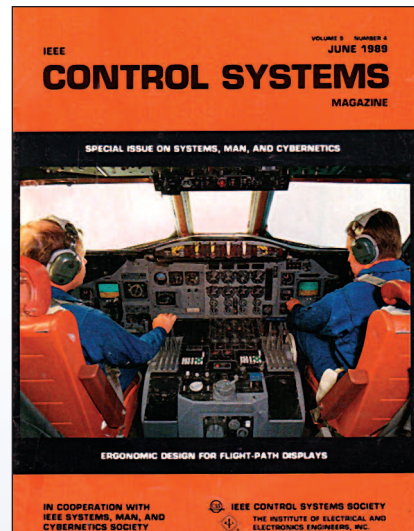
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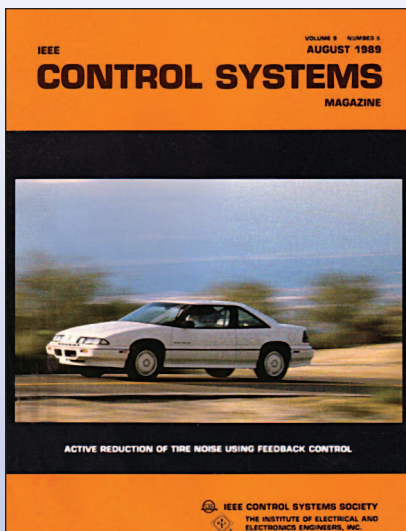
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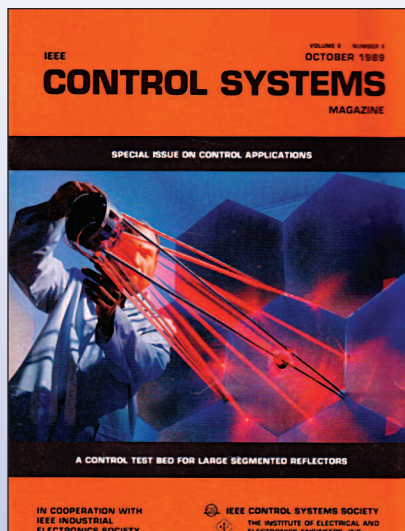
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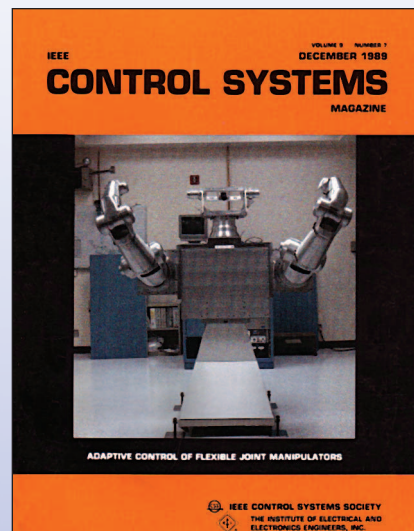
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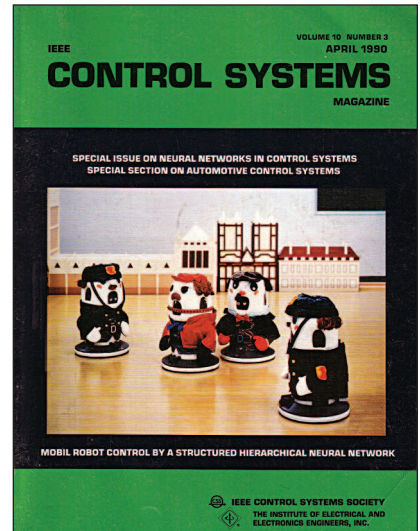
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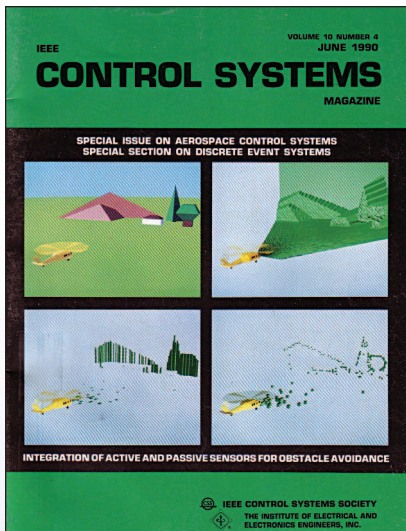
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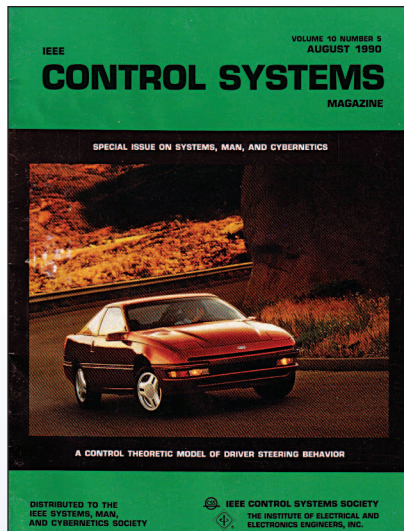
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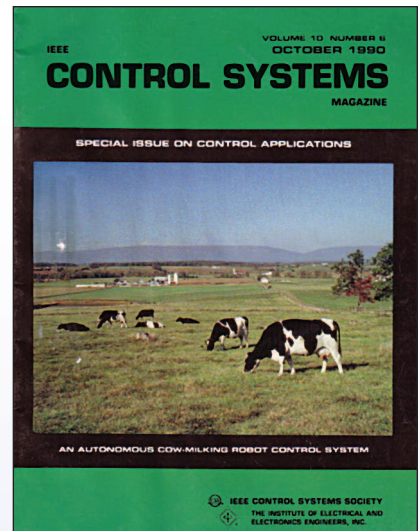
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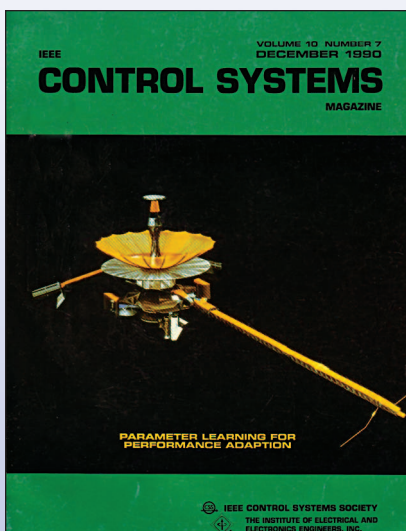
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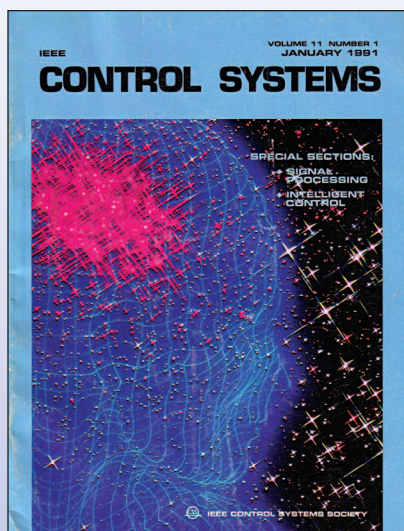
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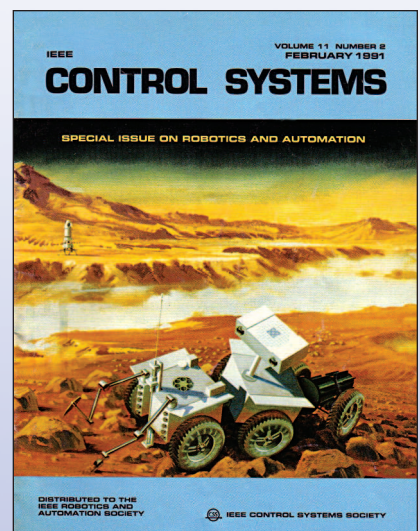
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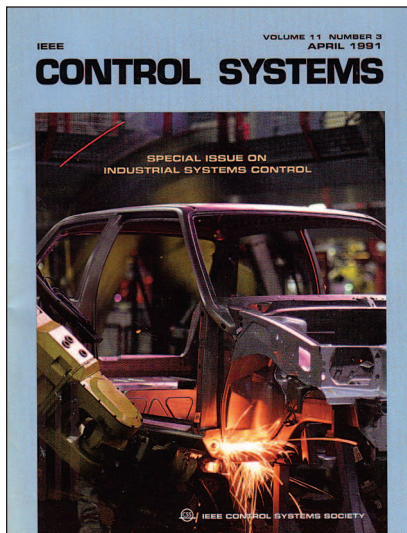
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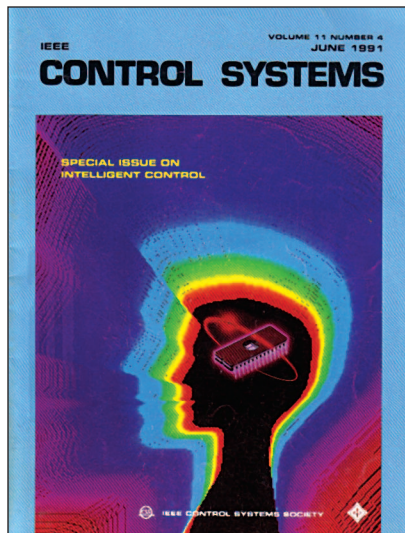
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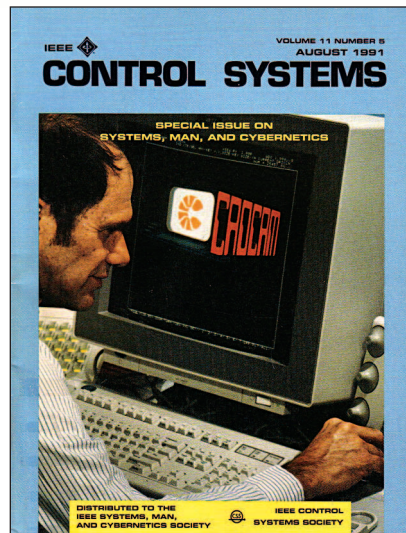
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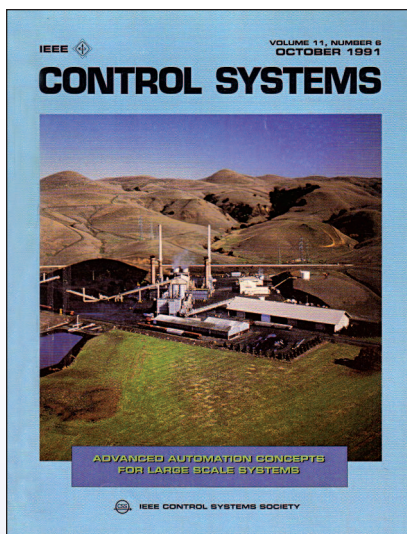
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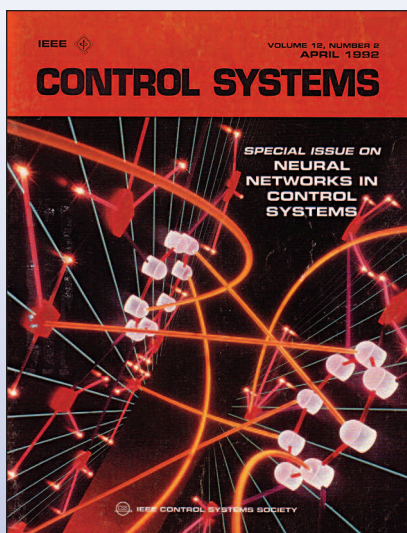
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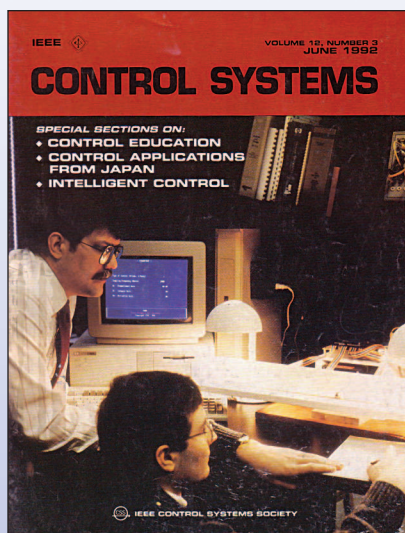
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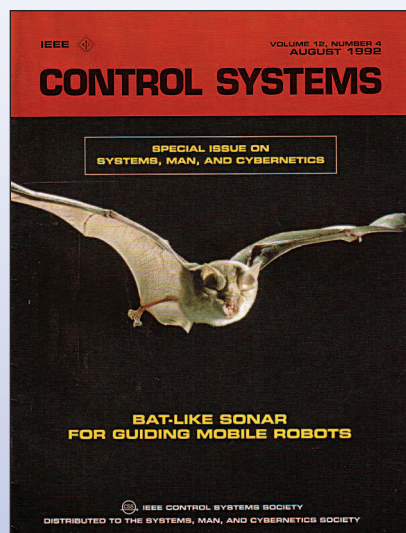
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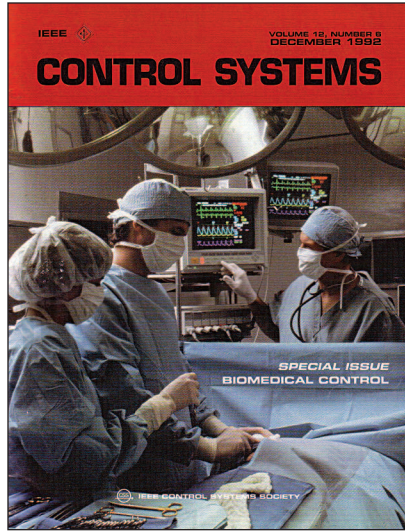
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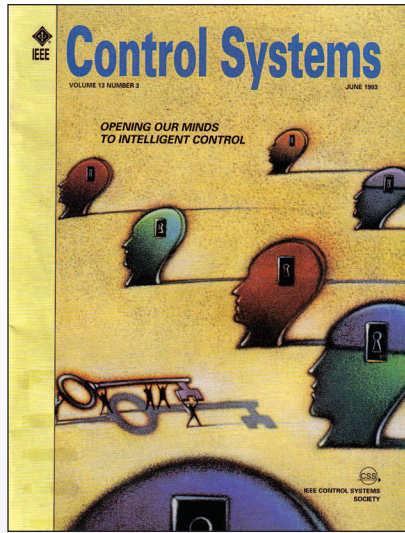
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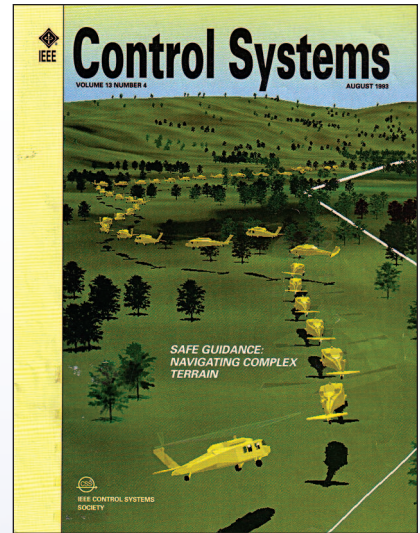
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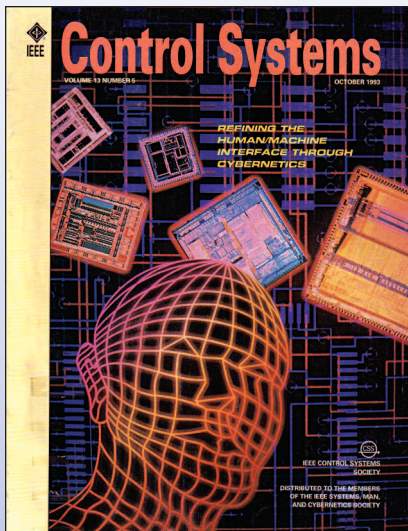
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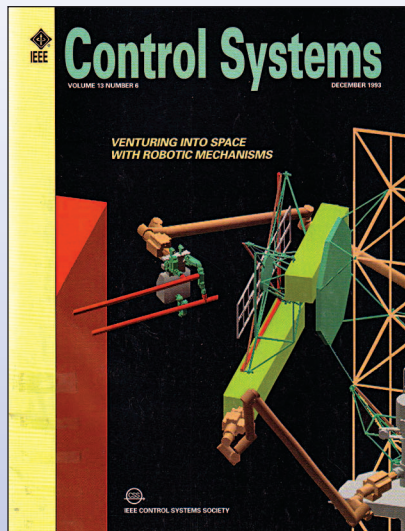
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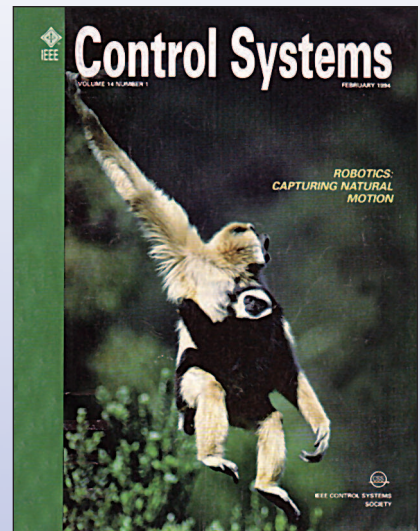
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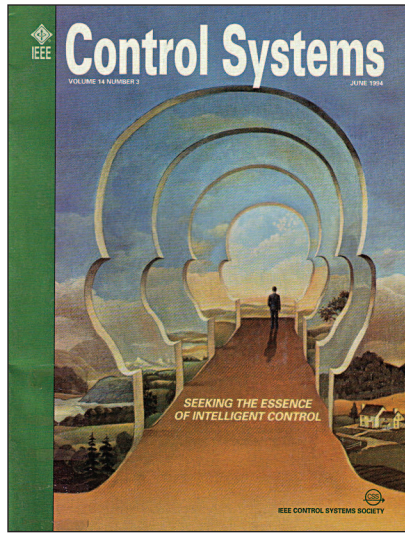
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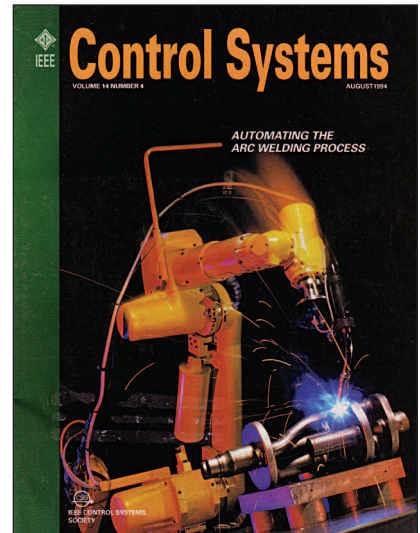
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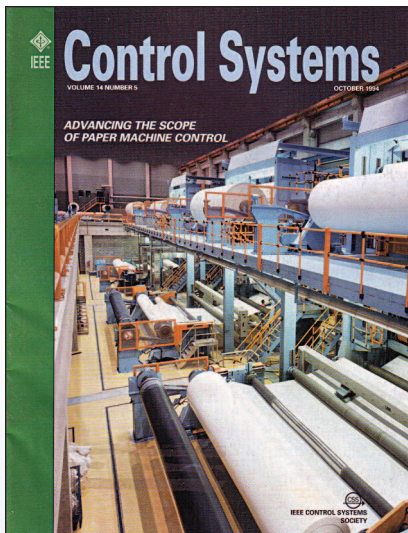
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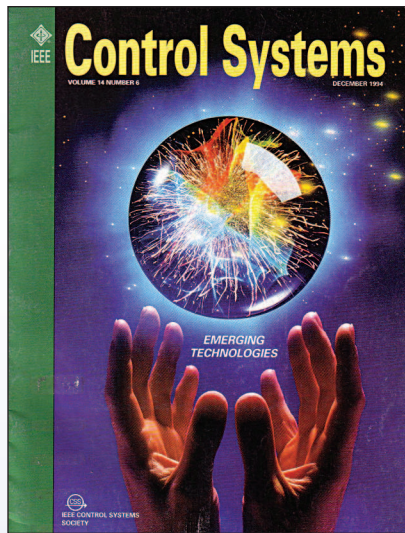
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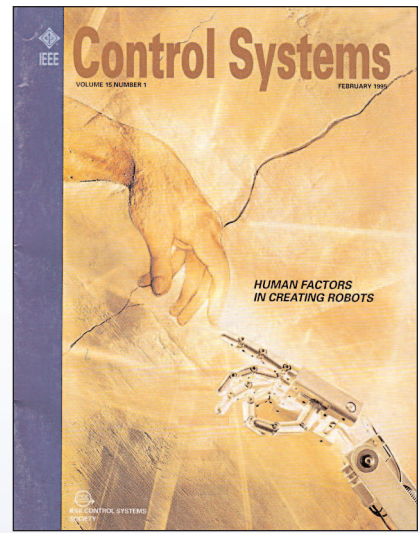
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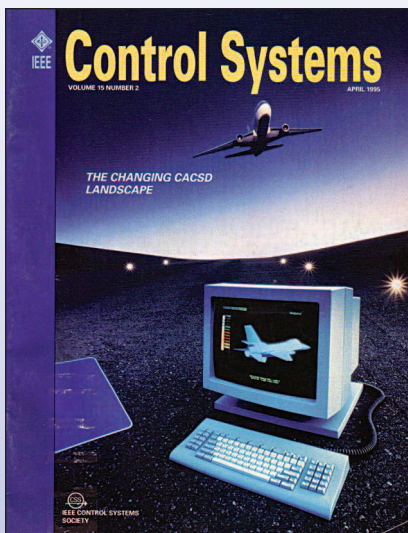
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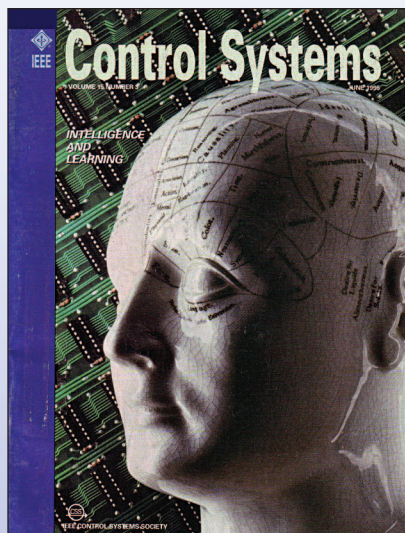
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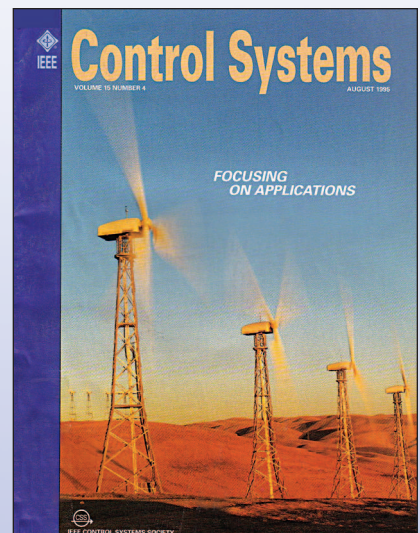
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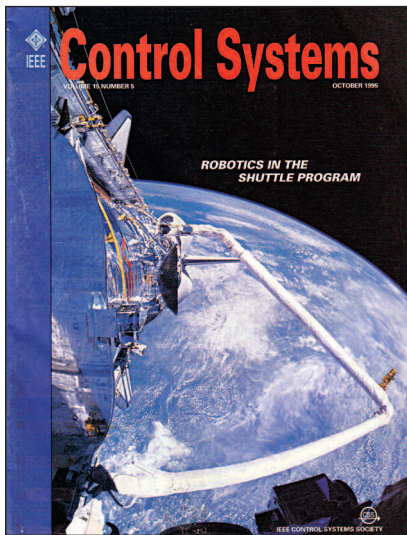
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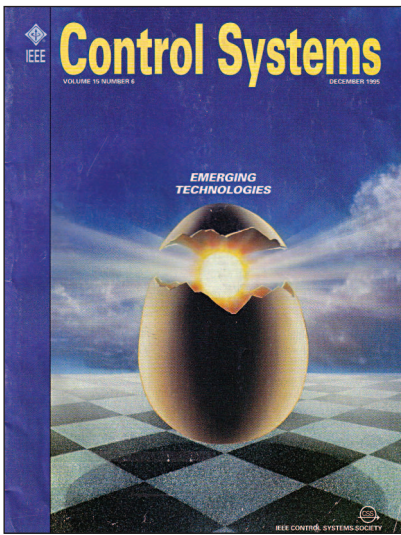
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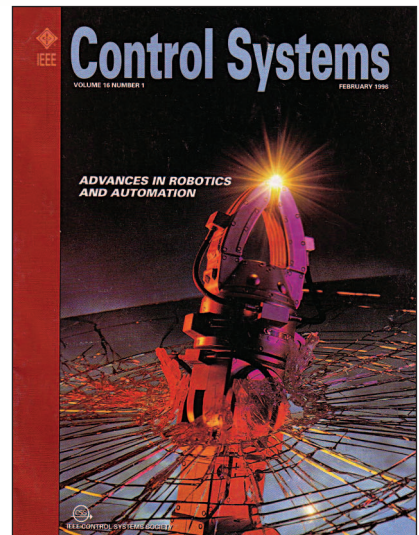
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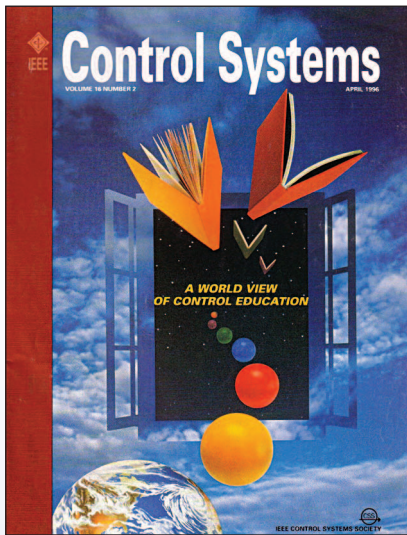
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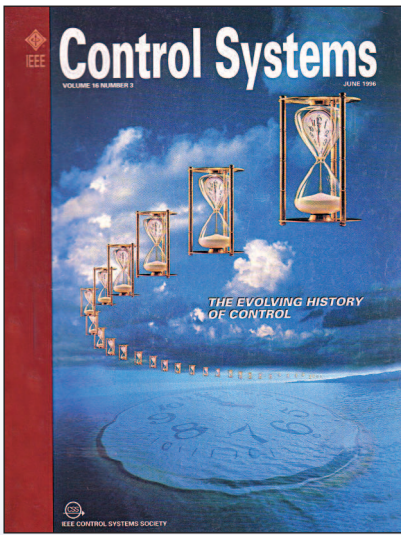
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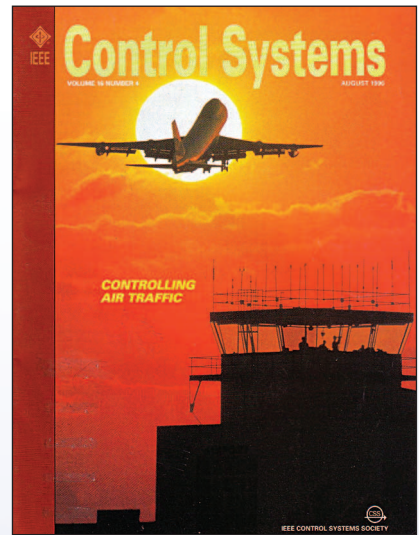
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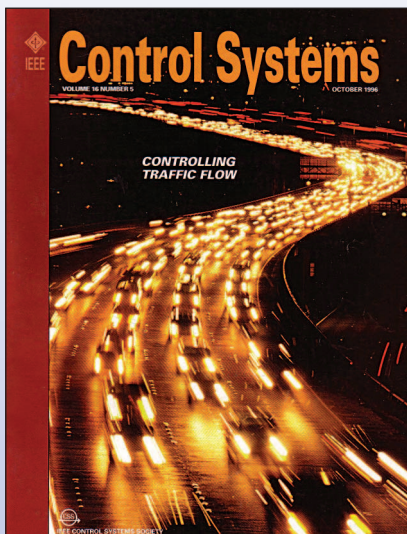
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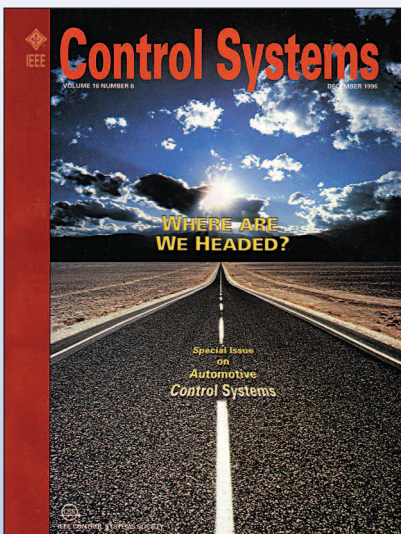
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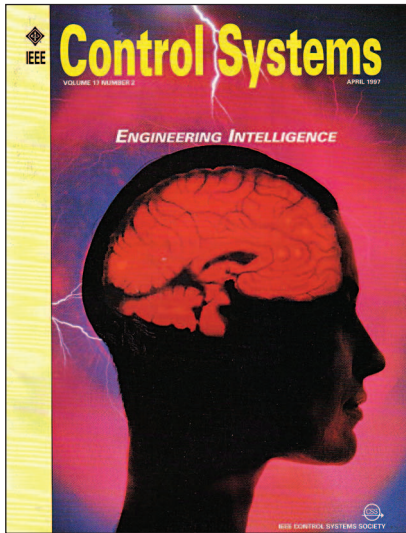
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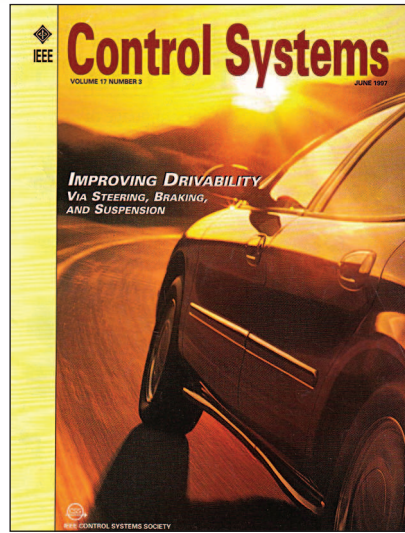
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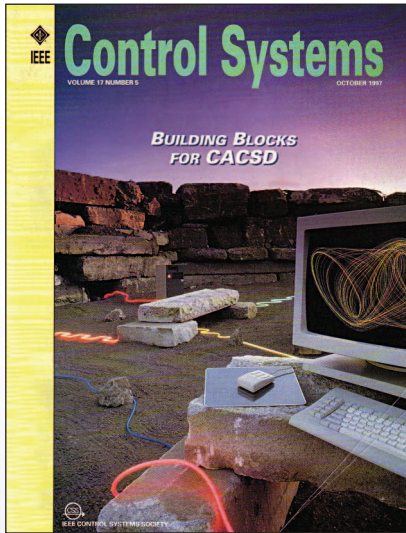
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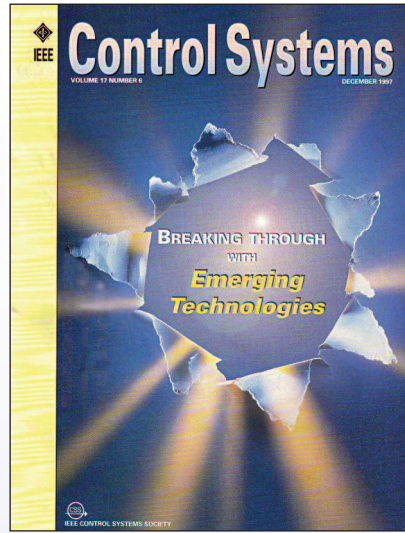
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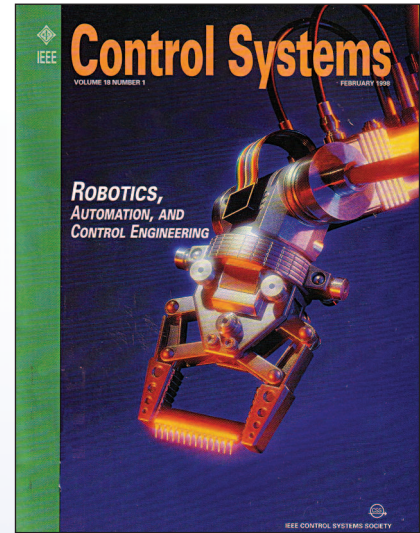
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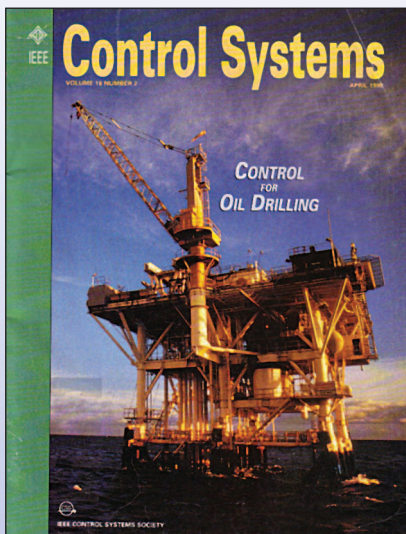
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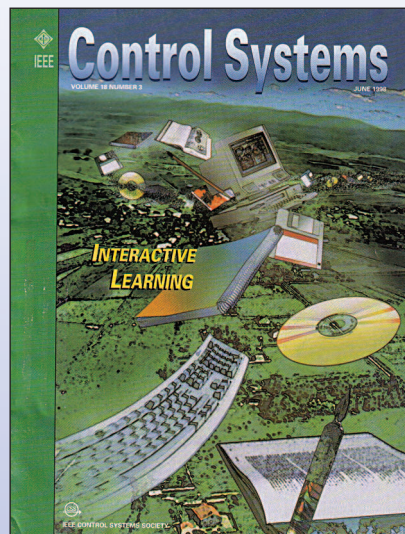
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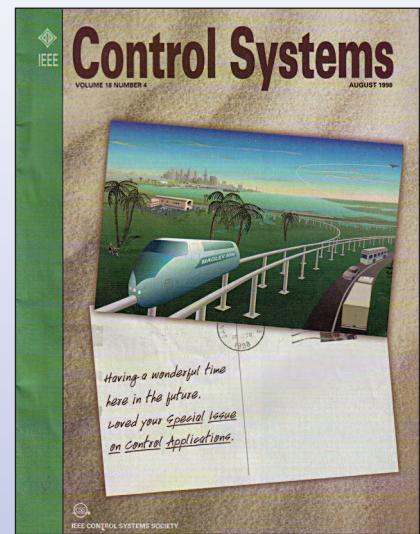
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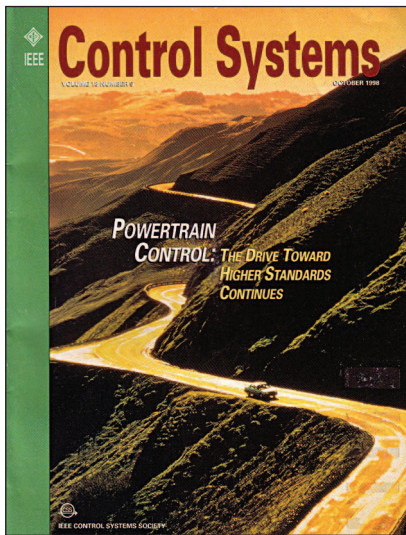
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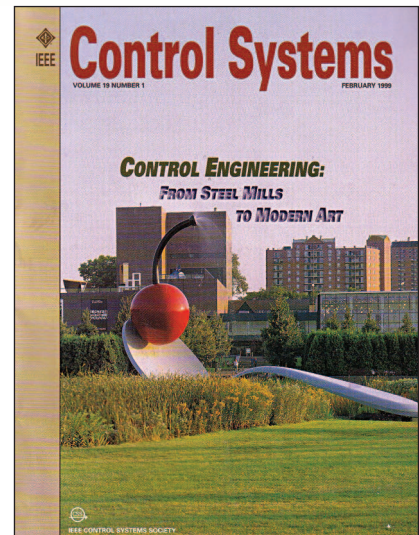
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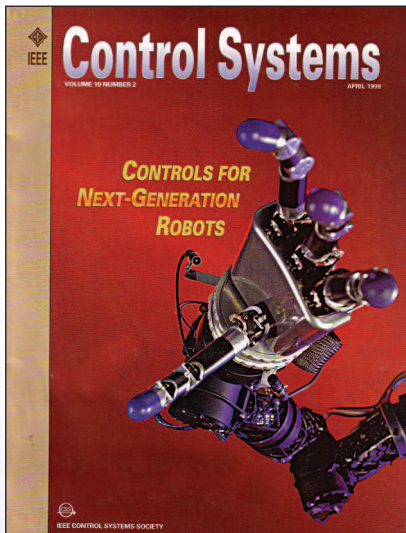
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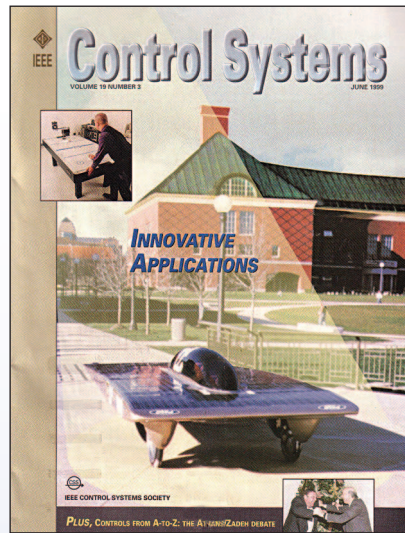
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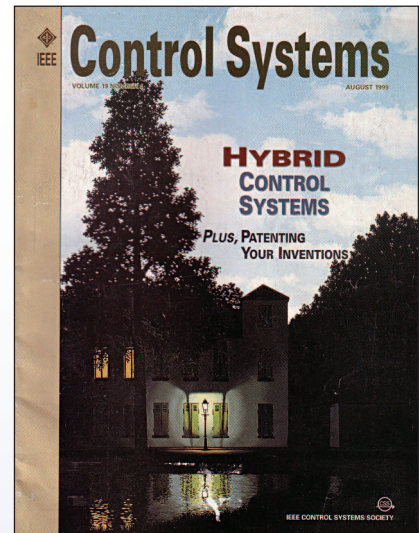
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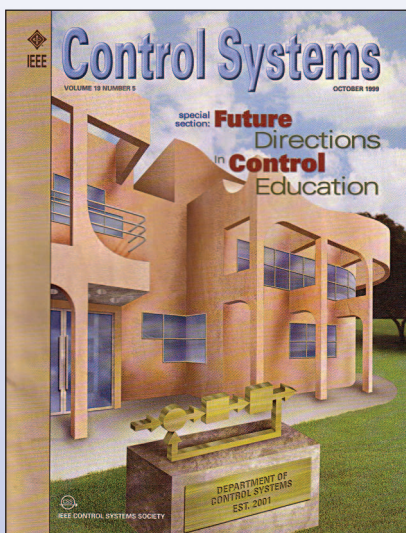
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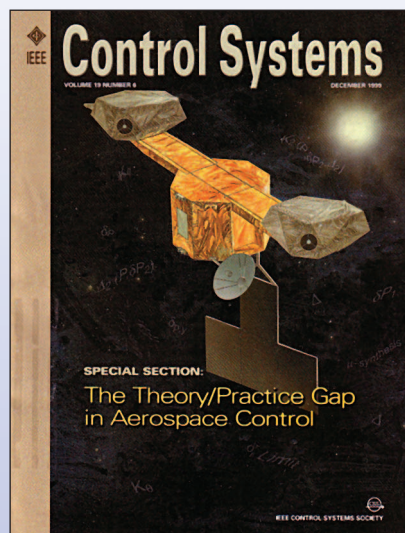
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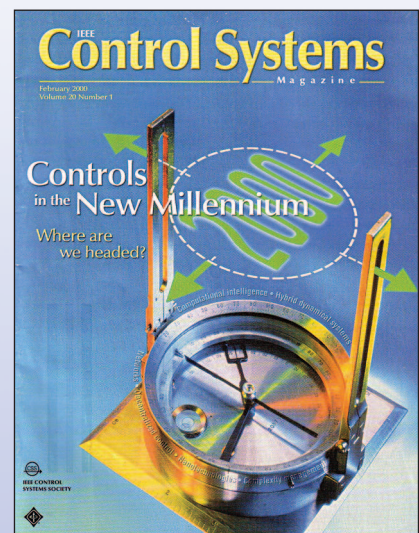
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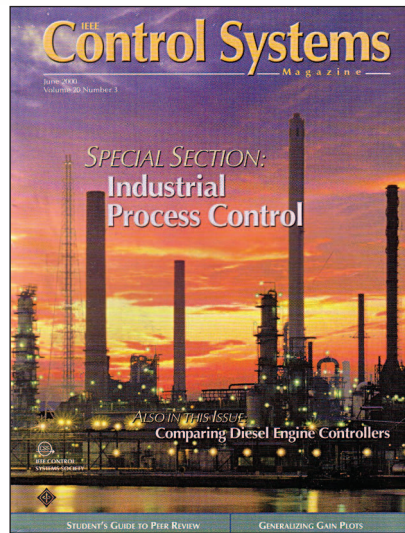
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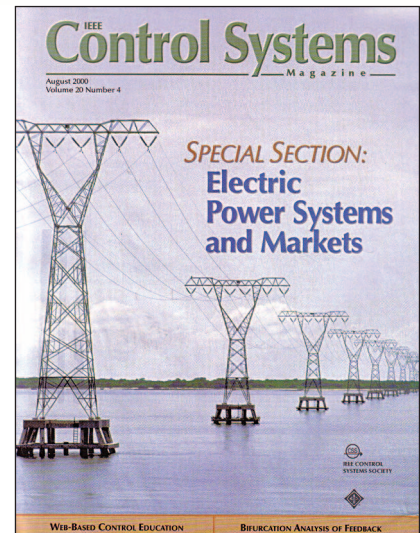
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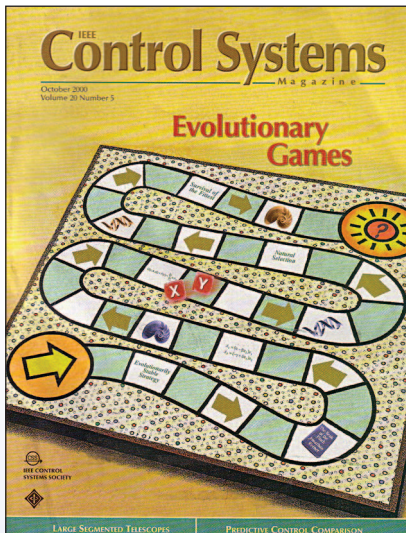
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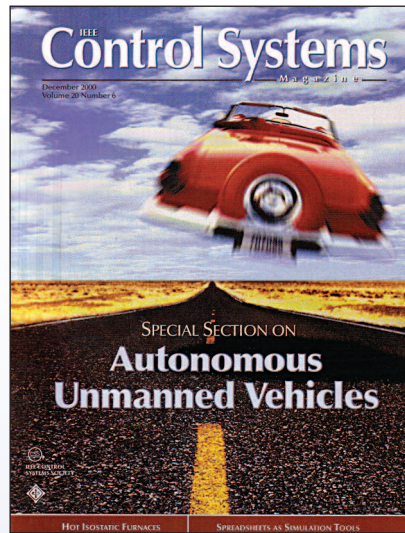
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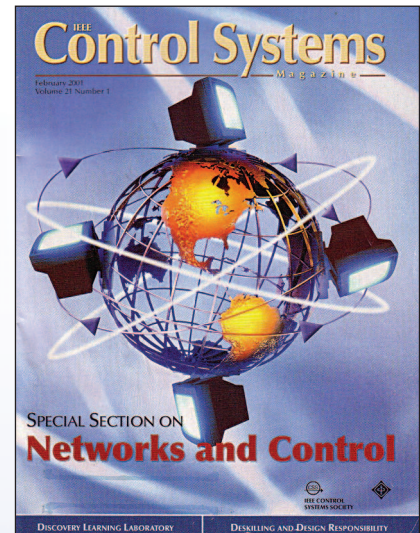
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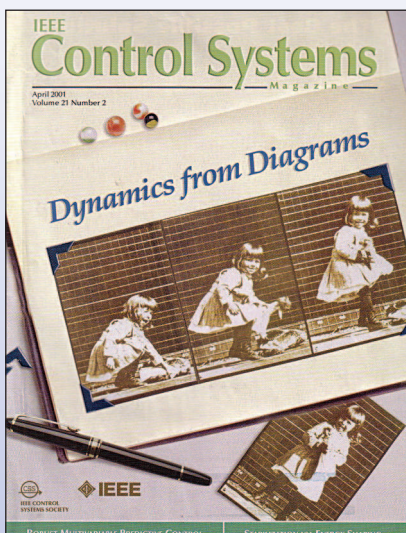
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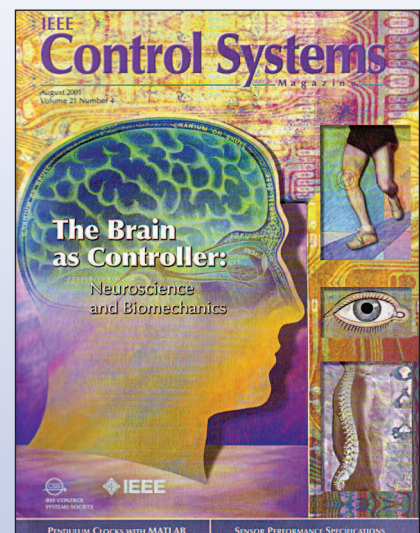
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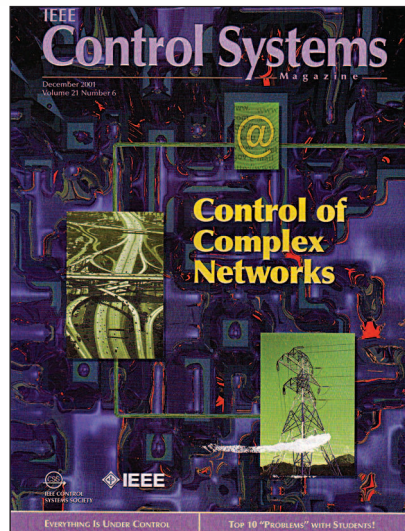
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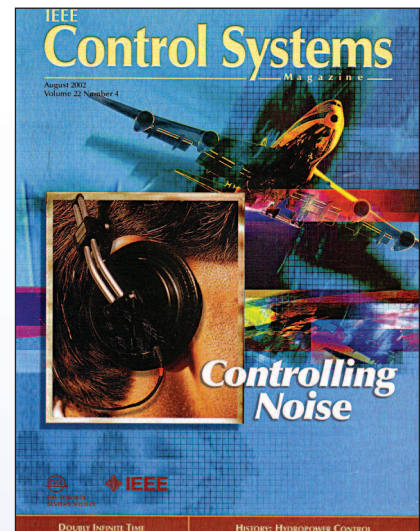
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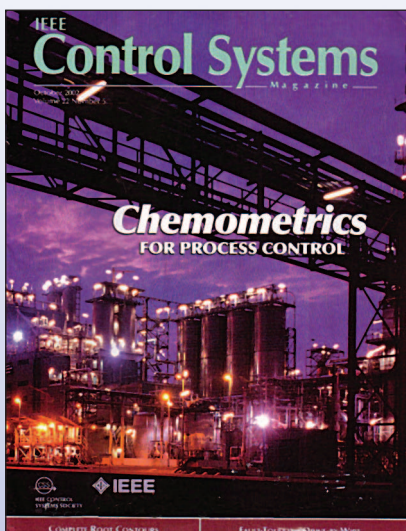
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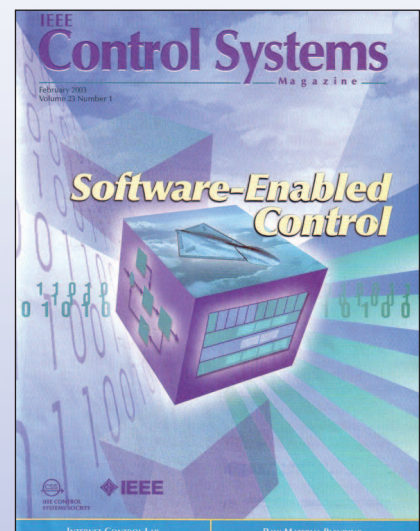
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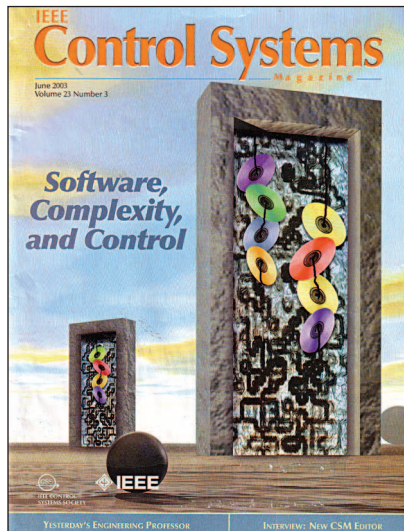
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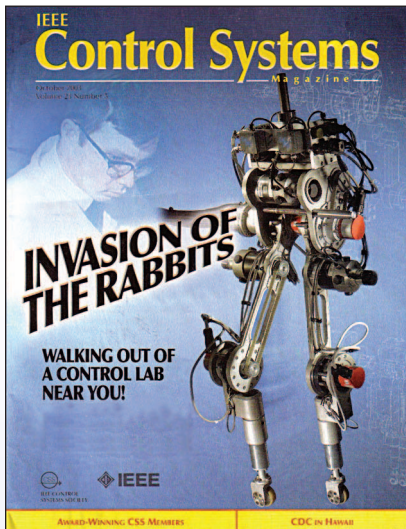
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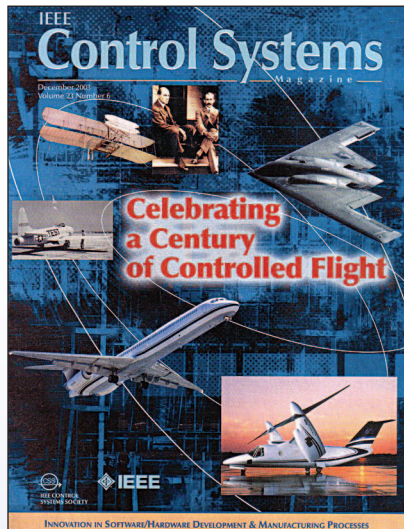
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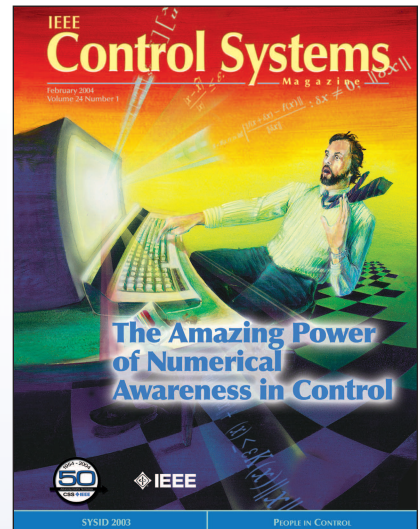
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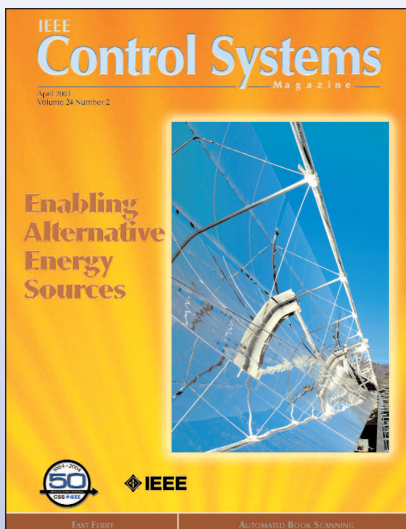
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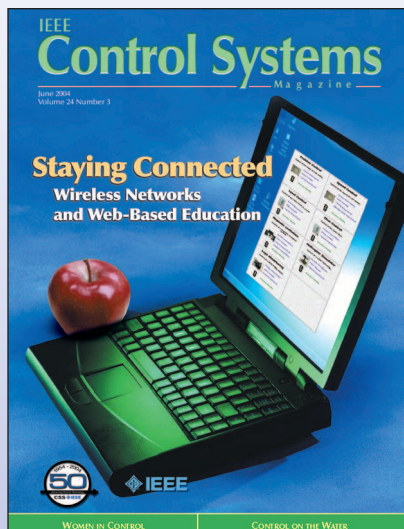
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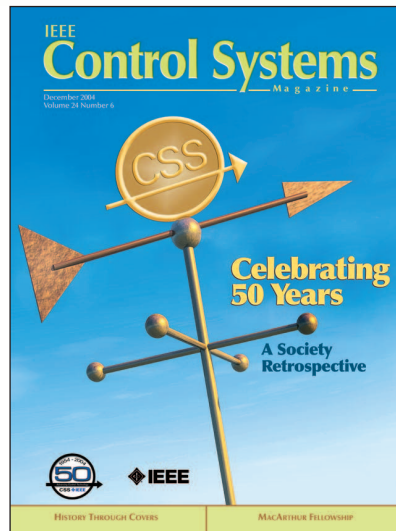
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Upcoming Articles for 2005

Be sure to complete your IEEE Control Systems Society membership renewal on time so that you don't miss the exciting upcoming issues of *IEEE Control Systems Magazine*. The February kickoff issue for 2005 will be a continuation of the October 2004 issue on innovations in control system education. In addition, 2005 will bring you articles on wheelchair technology, clinical pharmacology, history of analog computing, the dynamics and control of the outrigger canoe, bicycle, and swing, precision motion control, phase-locked loops, PI tuning, controlled nuclear fusion, and much, much more. In addition to these articles, you can look forward to your favorite columns: "People in Control," "Applications of Control," "Products for Control," "Book Reviews," and, of course, "On the Lighter Side."

Nominations Due

As stated in the IEEE Control Systems Society Bylaws, Article I, Section II, nominations for election to the IEEE CSS Board of Governors may be made by petitions signed by 25 or more members of the Society. These petitions must be received by the Secretary-Administrator Linda Bushnell (bushnell@ee.washington.edu) by 15 March 2005.

