

Improving Surface Defect Detection For Quality Assessment

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Image Analysis and Evaluation of Cylinder Bore Surfaces in Micrographs - Wang, Limeng 2014-08-27

Analysis - DaeEun Kim
2020-03-05

Imaging and analysis are widely involved in various research fields, including biomedical applications, medical

Intelligent Imaging and

imaging and diagnosis, computer vision, autonomous driving, and robot controls. Imaging and analysis are now facing big changes regarding intelligence, due to the breakthroughs of artificial intelligence techniques, including deep learning. Many difficulties in image generation, reconstruction, denoising skills, artifact removal, segmentation, detection, and control tasks are being overcome with the help of advanced artificial intelligence approaches. This Special Issue focuses on the latest developments of learning-based intelligent imaging techniques and subsequent analyses, which include photographic imaging, medical imaging, detection, segmentation, medical diagnosis, computer vision, and

vision-based robot control. These latest technological developments will be shared through this Special Issue for the various researchers who are involved with imaging itself, or are using image data and analysis for their own specific purposes.

Nondestructive Quality Assessment Techniques for Fresh Fruits and Vegetables - Pankaj B. Pathare 2022-12-19

This book describes the various techniques for nondestructive quality assessment of fruits and vegetables. It covers the methods, measurements, operation principles, procedures, data analysis, and applications for implementing these techniques. The book presents the details of nondestructive approaches focusing on the present-day trends and existing future

opportunities in the fresh food supply chain. First, it overviews different nondestructive techniques in food quality detection. Then it presents nondestructive methods: monochrome computer vision, imaging techniques, biospeckle laser technique, Fourier Transform Infrared (FTIR) Spectroscopy, hyperspectral imaging, Raman spectroscopy, near infrared (NIR) spectroscopy, X-ray computed tomography, ultrasound, acoustic emission, chemometrics, electronic nose and tongue. Selected applications of each method are also introduced. As a result, readers gain a better understanding of how to use nondestructive methods and technologies to detect the quality of fresh fruits and vegetables. With a wide range of interesting

topics, the book will benefit readers including postharvest & food scientists/technologists, industry personnel and researchers involved in fresh produce quality detection. The book can also serve as a readily accessible reference material for postgraduate students. **Advances in Multimedia, Software Engineering and Computing Vol.2** - David Jin 2011-11-23 MSEC2011 is an integrated conference concentrating its focus upon Multimedia, Software Engineering, Computing and Education. In the proceeding, you can learn much more knowledge about Multimedia, Software Engineering, Computing and Education of researchers all around the world. The main role of the proceeding is to be used as an exchange pillar for researchers

who are working in the mentioned field. In order to meet high standard of Springer, AISC series ,the organization committee has made their efforts to do the following things. Firstly, poor quality paper has been refused after reviewing course by anonymous referee experts. Secondly, periodically review meetings have been held around the reviewers about five times for exchanging reviewing suggestions. Finally, the conference organization had several preliminary sessions before the conference. Through efforts of different people and departments, the conference will be successful and fruitful.

Database Systems for Advanced Applications. DASFAA 2021 International Workshops
- Christian S. Jensen
2021-04-06

This volume constitutes the papers of several workshops which were held in conjunction with the 26th International Conference on Database Systems for Advanced Applications, DASFAA 2021, held in Taipei, Taiwan, in April 2021. The 29 revised full papers presented in this book were carefully reviewed and selected from 84 submissions. DASFAA 2021 presents the following five workshops: 6th International Workshop on Big Data Quality Management (BDQM 2021) 5th International Workshop on Graph Data Management and Analysis (GDMA 2021) First International Workshop on Machine Learning and Deep Learning for Data Security Applications (MLDLDSA 2021) 6th International Workshop on Mobile Data Management, Mining, and Computing on Social

Network (MobiSocial 2021) 2021 International Workshop on Mobile Ubiquitous Systems and Technologies (MUST 2021) Due to the Corona pandemic this event was held virtually.

Dates - A.

Manickavasagan

2012-04-20

Of the many varieties of date palms, the species Phoenix dactylifera Linn. is cultivated extensively and traded and consumed worldwide.

Dates: Production, Processing, Food, and Medicinal Values draws from a broad spectrum of contributors to present a comprehensive survey of this particular species. The book explores a range of essential facets of w

Image Processing of Edge and Surface Defects -

Roman Louban 2009-09-16

The human ability to recognize objects on various backgrounds is amazing. Many times,

industrial image processing tried to imitate this ability by its own techniques. This book discusses the recognition of defects on free-form edges and - homogeneous surfaces. My many years of experience has shown that such a task can be solved efficiently only under particular conditions. Inevitably, the following questions must be answered: How did the defect come about? How and why is a person able to recognize a specific defect? In short, one needs an analysis of the process of defect creation as well as an analysis of its detection. As soon as the principle of these processes is understood, the processes can be described mathematically on the basis of an appropriate physical model and can then be captured in an algorithm for defect detection.

This approach can be described as "image processing from a physicist's perspective". I have successfully used this approach in the development of several industrial image processing systems and improved upon them in the course of time. I would like to present the achieved results in a hands-on book on the basis of edge-based algorithms for defect detection on edges and surfaces. I would like to thank all who have supported me in writing this book.

Review of Progress in Quantitative Nondestructive Evaluation - Donald O. Thompson 2012-12-06

These Proceedings, consisting of Parts A and B, contain the edited versions of most of the papers presented at the annual Review of Progress in Quantitative Nondestructive

Evaluation held at the University of California San Diego, in La Jolla, California on July 19- July 24, 1992. The Review was organized by the Center for NDE at Iowa State University and the Ames Laboratory of the USD0E in cooperation with a number of organizations including the Air Force Wright Laboratory Materials Directorate, the American Society for Nondestructive Testing, the Center for NDE at Johns Hopkins University, the Department of Energy, the Federal Aviation Administration, the National Institute of Standards and Technology, the National Science Foundation Industry/University Cooperative Research Centers, and the Working Group in Quantitative NDE. This year's Review of Progress in QNDE was attended by

approximately 475 participants from the U. S. and many foreign countries who presented over 380 papers. With such a large volume of work to review, the meeting was divided into 36 sessions with as many as four sessions running concurrently. The Review covered all phases of NDE research and development from fundamental investigations to engineering applications or inspection systems, and it included all methods of inspection science from acoustics to x-rays. During the last twenty years, the participants of the Review have contributed to its steady growth. Thanks to their efforts, the Review is today one of the largest and most significant gatherings of NDE researchers and engineers anywhere in the world.

Advances in Brain

Inspired Cognitive Systems - Jinchang Ren 2020-01-31

This book constitutes the refereed proceedings of the 10th

International Conference on Advances in Brain

Inspired Cognitive Systems, BICS 2019, held

in Guangzhou, China, in July 2019. The 57 papers

presented in this volume were carefully reviewed

and selected from 129 submissions. The papers

are organized in topical sections named: neural

computation;

biologically inspired systems; image

recognition: detection, tracking and

classification; and data analysis and natural

language processing.

Improving the Effectiveness and Reliability of Non-Destructive Testing -

W.E. Gardner 2013-10-22

This book is concerned with the two most

important aspects of the

use of non-destructive testing. Firstly, the effectiveness of procedures to detect and size the defects present irrespective of the geometry, materials involved or environment. Secondly, the reliability of instrumentation and personnel to perform the specified procedures. Validation and certification techniques required for the justification of safe operation of a plant are also discussed. Experts in industries where safety and defect detection are of paramount importance have made valuable contributions drawn from their experience to make this book essential reading for anyone responsible for safety of plant operation. Illustrated throughout, the book is also of interest to mechanical and structural

engineers, researchers and inspectors as well as being a useful reference tool for graduate students. Proceedings of the 3rd International Conference on Frontiers of Intelligent Computing: Theory and Applications (FICTA) 2014 - Suresh Chandra Satapathy 2014-10-31 This volume contains 87 papers presented at FICTA 2014: Third International Conference on Frontiers in Intelligent Computing: Theory and Applications. The conference was held during 14-15, November, 2014 at Bhubaneswar, Odisha, India. This volume contains papers mainly focused on Network and Information Security, Grid Computing and Cloud Computing, Cyber Security and Digital Forensics, Computer Vision, Signal, Image & Video Processing, Software

Engineering in
Multidisciplinary
Domains and Ad-hoc and
Wireless Sensor
Networks.

*Reproducible Research in
Pattern Recognition* -
Bertrand Kerautret
2021-05-13

This book constitutes
the thoroughly refereed
post-workshop
proceedings of the Third
International Workshop
on Reproducible Research
in Pattern Recognition,
RRPR 2021, held as a
virtual event, in
January 2021. The 8
revised full papers,
presented together with
6 short papers, were
carefully reviewed and
selected from 18
submissions. The papers
were organized into
three main categories.
The first contributions
focused on reproducible
research frameworks. The
second category focused
on reproducible research
results and the last
category included ICPR

companion papers
describing
implementation and
details that are an
absolute requirement for
reproducibility.

Knowledge and Systems
Engineering - Van Nam
Huyhn 2013-10-01

The field of Knowledge
and Systems Engineering
(KSE) has experienced
rapid development and
inspired many
applications in the
world of information
technology during the
last decade. The KSE
conference aims at
providing an open
international forum for
presentation, discussion
and exchange of the
latest advances and
challenges in research
of the field. These
proceedings contain
papers presented at the
Fifth International
Conference on Knowledge
and Systems Engineering
(KSE 2013), which was
held in Hanoi, Vietnam,
during 17–19 October,

2013. Besides the main track of contributed papers, which are compiled into the first volume, the conference also featured several special sessions focusing on specific topics of interest as well as included one workshop, of which the papers form the second volume of these proceedings. The book gathers a total of 68 papers describing recent advances and development on various topics including knowledge discovery and data mining, natural language processing, expert systems, intelligent decision making, computational biology, computational modeling, optimization algorithms, and industrial applications.

Research Developments in Computer Vision and Image Processing: Methodologies and Applications -

Srivastava, Rajeev
2013-09-30

Similar to the way in which computer vision and computer graphics act as the dual fields that connect image processing in modern computer science, the field of image processing can be considered a crucial middle road between the vision and graphics fields. Research Developments in Computer Vision and Image Processing: Methodologies and Applications brings together various research methodologies and trends in emerging areas of application of computer vision and image processing. This book is useful for students, researchers, scientists, and engineers interested in the research developments of this rapidly growing field.

Artificial Intelligence

- Lu Fang 2023-01-17
This three-volume set
LNCS 13604-13606
constitutes revised
selected papers
presented at the Second
CAAI International
Conference on Artificial
Intelligence, held in
Beijing, China, in
August 2022. CICA
I is a
summit forum in the
field of artificial
intelligence and the
2022 forum was hosted by
Chinese Association for
Artificial Intelligence
(CAAI). The 164 papers
were thoroughly reviewed
and selected from 521
submissions. CICA
I aims
to establish a global
platform for
international academic
exchange, promote
advanced research in AI
and its affiliated
disciplines such as
machine learning,
computer vision, natural
language, processing,
and data mining, amongst
others.

Expert Systems in

*Mineral and Metal
Processing* - A. J. Niemi
2016-09-01

Within the metal and
mining industries, the
use of expert systems
for monitoring and
control is on the
increase. The content of
each paper had to
include both expert
systems, neural networks
or fuzzy control. The
papers were evenly
contributed from
industry, universities
and research institutes,
thus this book provides
a valuable insight into
the theoretical as well
as the practical
applications currently
in use within the
industry.

Computer Vision
Technology for Food
Quality Evaluation - Da-
Wen Sun 2016-04-07

Computer Vision
Technology for Food
Quality Evaluation,
Second Edition continues
to be a valuable
resource to engineers,

researchers, and technologists in research and development, as well as a complete reference to students interested in this rapidly expanding field. This new edition highlights the most recent developments in imaging processing and analysis techniques and methodology, captures cutting-edge developments in computer vision technology, and pinpoints future trends in research and development for food quality and safety evaluation and control. It is a unique reference that provides a deep understanding of the issues of data acquisition and image analysis and offers techniques to solve problems and further develop efficient methods for food quality assessment. Thoroughly explains what computer vision technology is,

what it can do, and how to apply it for food quality evaluation Includes a wide variety of computer vision techniques and applications to evaluate a wide variety of foods Describes the pros and cons of different techniques for quality evaluation

Advanced Nondestructive Evaluation II - Proceedings of the International Conference on Ande 2007 - Seung-Seok Lee 2008

This volume comprises papers presented at the 2nd International Conference on Advanced Nondestructive Evaluation (ANDE 2007) held in Busan, Korea, on October 17-19, 2007. Many of the excellent papers included in this book show the current state of nondestructive technologies, which are experiencing rapid progress with the integration of emerging

technologies in various fields. As such, this volume provides an avenue for both specialists and scholars to share their ideas and the results of their findings in the field of nondestructive evaluation.

Departments of State, Justice, and Commerce, the Judiciary, and related agencies appropriations for fiscal year 1979 - United States. Congress. Senate. Committee on Appropriations. Subcommittee on State, Justice, Commerce, the Judiciary, and Related Agencies 1978

Departments of State, Justice, and Commerce, the judiciary, and related agencies appropriations for 1981 - United States. Congress. House. Committee on Appropriations. Subcommittee on the

Departments of State, Justice, and Commerce, the Judiciary, and Related Agencies 1980

Improving the Safety and Quality of Eggs and Egg Products - Y Nys

2011-08-19

Eggs are economical and of high nutritional value, yet can also be a source of foodborne disease. Understanding of the factors influencing egg quality has increased in recent years and new technologies to assure egg safety have been developed. Improving the safety and quality of eggs and egg products reviews recent research in these areas. Volume 1 focuses on egg chemistry, production and consumption. Part one sets the scene with information on egg production and consumption in certain countries. Part two then provides essential

information on egg formation and chemistry. Factors that impact egg quality are the focus of part three. Chapters cover the role of poultry breeding, hen nutrition and laying environment, among other significant topics. Part four addresses organic and free range egg production, the impact of egg production on the environment and non-poultry eggs. A chapter on processed egg products completes the volume. With its distinguished editors and international team of contributors, Volume 1 of Improving the safety and quality of eggs and egg products is an essential reference for managers in the egg industry, professionals in the food industry using eggs as ingredients and all those with a research interest in the subject. Focuses on egg

chemistry, production and consumption with reference to the factors than can impact egg quality Reviews recent research in the areas of disease, egg quality and the development of new technologies to assure egg safety
Comprehensively covers organic, free-range and processed egg production
2014 International Conference on Artificial Intelligence and Software Engineering(AISE2014) - S. K. Chen, Altair Engineering Inc., California, USA
2014-02-06
2014 International Conference on Artificial Intelligence and Software Engineering(AISE2014) aims to provide a forum for accessing to the most up-to-date and authoritative knowledge from both Artificial Intelligence and Software Engineering.

AISE2014 features unique mixed topics of AI Algorithms, Data Mining, Knowledge-based Systems, Software Process and so on. The goal of this conference is to bring researchers, engineers, and students to the areas of Artificial Intelligence and Software Engineering to share experiences and original research contributions on those topics. Researchers and practitioners are invited to submit their contributions to AISE2014.

Advanced Nondestructive Evaluation II -
2008-08-04

This volume comprises papers presented at the 2nd International Conference on Advanced Nondestructive Evaluation (ANDE 2007) held in Busan, Korea, on October 17–19, 2007. Many of the excellent papers included in this book show the current

state of nondestructive technologies, which are experiencing rapid progress with the integration of emerging technologies in various fields. As such, this volume provides an avenue for both specialists and scholars to share their ideas and the results of their findings in the field of nondestructive evaluation.

Departments of State, Justice, and Commerce, the Judiciary, and Related Agencies Appropriations for 1979: Department of Commerce - United States. Congress. House. Committee on Appropriations. Subcommittee on Departments of State, Justice, Commerce, the Judiciary, and Related Agencies Appropriations 1978

Departments of Commerce, Justice, and State, the Judiciary, and related

agencies appropriations for 1982 - United States. Congress. House. Committee on Appropriations. Subcommittee on the Departments of Commerce, Justice, and State, the Judiciary, and Related Agencies 1981

Optimization of In-line Defect Detection by Eddy Current Techniques - Mehbub-Ur Rahman 2011

Bio-Imaging - Rajagopal Vadivambal 2015-08-27
Highlights the Emergence of Image Processing in Food and Agriculture
In addition to uses specifically related to health and other industries, biological imaging is now being used for a variety of applications in food and agriculture. Bio-Imaging: Principles, Techniques, and Applications fully details and outlines the processes of bio-imaging

applica
AMST'02 Advanced Manufacturing Systems and Technology - Elso Kuljanic 2014-05-04
The work contains the results of the Sixth International Conference on Advanced Manufacturing Systems and Technology – AMST'02, which was held in Udine in June 2002. It presents up-to-date information on the latest developments – research results and experience – in the field of machining of conventional and advanced materials, machine tools and flexible manufacturing systems, forming, nonconventional processes, robotics, measurement and control, quality, design and ecodesign, rapid prototyping, rapid tooling and manufacturing, materials and mechanics.
Cold Micro Metal Forming

- Frank Vollertsen
2019-09-13
This open access book contains the research report of the Collaborative Research Center "Micro Cold Forming" (SFB 747) of the University of Bremen, Germany. The topical research focus lies on new methods and processes for a mastered mass production of micro parts which are smaller than 1mm (by forming in batch size higher than one million). The target audience primarily comprises research experts and practitioners in production engineering, but the book may also be of interest to graduate students alike.

Intelligent Quality Assessment of Railway Switches and Crossings -

Roberto Galeazzi
2021-03-04
This book focuses on the latest scientific and technological

advancements in the field of railway turnout engineering. It offers a holistic approach to the scientific investigation of the factors and mechanisms determining performance degradation of railway switches and crossings (S&Cs), and the consequent development of condition monitoring systems that will enable infrastructure managers to transition towards the implementation of predictive maintenance. The book is divided into three distinct parts. Part I discusses the modelling of railway infrastructure, including switch and crossing systems, while Part II focuses on metallurgical characterization. This includes the microstructure of in-field loaded railway steel and an analysis of rail screw failures. In turn, the third and

final part discusses condition monitoring and asset management. Given its scope, the book is of interest to both academics and industrial practitioners, helping them learn about the various challenges characterizing this engineering domain and the latest solutions to properly address them.

Applications of Computer Vision in Fashion and Textiles - Calvin Wong
2017-10-20

Applications of Computer Vision in Fashion and Textiles provides a systematic and comprehensive discussion of three key areas that are taking advantage of developments in computer vision technology, namely textile defect detection and quality control, fashion recognition and 3D modeling, and 2D and 3D human body modeling for improving clothing fit. It introduces the

fundamentals of computer vision techniques for fashion and textile applications, also reviewing computer vision techniques for textile quality control, including chapters on wavelet transforms, Gabor filters, Fourier transforms, and neural network techniques. Final sections cover recognition, modeling, retrieval technologies and advanced human shape modeling techniques. The book is essential reading for scientists and researchers working in the field of fashion production, quality assurance, product development, textiles, fashion supply chain managers, R&D professionals and managers in the textile industry. Explores computer vision technology with reference to improving budget, quality and schedule control in

textile manufacturing
Provides a thorough
understanding of the
role of computer vision
in developing
intelligent systems for
the fashion and textiles
industries Elucidates
the connections between
human body modeling
technology and
intelligent
manufacturing systems
Intelligent Systems and
Applications - Kohei
Arai 2020-08-25
The book Intelligent
Systems and Applications
- Proceedings of the
2020 Intelligent Systems
Conference is a
remarkable collection of
chapters covering a
wider range of topics in
areas of intelligent
systems and artificial
intelligence and their
applications to the real
world. The Conference
attracted a total of 545
submissions from many
academic pioneering
researchers, scientists,
industrial engineers,

students from all around
the world. These
submissions underwent a
double-blind peer review
process. Of those 545
submissions, 177
submissions have been
selected to be included
in these proceedings. As
intelligent systems
continue to replace and
sometimes outperform
human intelligence in
decision-making
processes, they have
enabled a larger number
of problems to be
tackled more
effectively. This
branching out of
computational
intelligence in several
directions and use of
intelligent systems in
everyday applications
have created the need
for such an
international conference
which serves as a venue
to report on up-to-the-
minute innovations and
developments. This book
collects both theory and
application based

chapters on all aspects of artificial intelligence, from classical to intelligent scope. We hope that readers find the volume interesting and valuable; it provides the state of the art intelligent methods and techniques for solving real world problems along with a vision of the future research.

Eco-friendly Agro-biological Techniques for Enhancing Crop Productivity

- Rakesh Singh Sengar 2018-03-13
As the world population is exploding and alongside fluctuations in climate is also prevalent, there is an increasing stress on the food requirements of the population. We have an urgent necessity to produce more food in the limited agricultural land. Further, to feed 7 billion people there is a requirement of high yielding crops, without

harming environment and limiting the use of unnecessary pesticide and chemical fertilizers. Therefore it has become crucial to develop agri-bio-techniques which are environment friendly and also give high crop productivity. Many countries are evaluating the utility of biotechnology and its role in addressing problems of food security and poverty. Biotechnology is the application of scientific and engineering principles to the processing and production of materials by utilising biological agents. These agents are exploited to provide goods and services. Agricultural biotechnology encompasses a growing list of techniques that range from simple probes to determine a relevant gene from the complete

genome to manipulating genes for a desired outcome. Many other popular methods used in the realm of agricultural technology are – gene integration, Marker-assisted breeding, Tissue culture, Gene profiling or association mapping, Metabolomics etc. The fundamental challenge facing the scientific community is how to devise innovative strategies that will bring all developed as well as developing countries into the “biological fold” and to do so in ways that will take full advantage of advances in the biological sciences to curb poverty, improve public health, and promote human development. This book contains information on eco-friendly techniques for high crop productivity and it is a myriad of different

techniques and technology used to sustain productivity in crop plants. There are fewer books focusing on large-scale organic farming, molecular farming etc. Multidisciplinary research and literature is needed to deliver knowledge and products into the marketplace which fulfil these requirements. The present book is a collection of literature contributed by experts, scientists, professors, and researchers from around the world, it emphasizes work of concerned scientist and his choice of techniques used for enhancement of agricultural production. This book analyses the use of modern techniques to increase crop yields, production, and risk of hunger linked to socioeconomic scenarios. Advances in Farming, Machining and Automation

- Uday S. Dixit
2022-10-03

This book presents selected proceedings of the 8th International and 29th All India Manufacturing Technology, Design and Research Conference (AIMTDR 2021). It covers the recent developments in the areas of metal forming and machining techniques, incremental forming, microforming, nesting algorithms, process simulation, parameter analysis, tools and tooling, tool wear, condition monitoring, cyber physical systems, robotics, machine vision, intelligent manufacturing, enterprise manufacturing intelligence, etc. The contents of this book will be useful for students, researchers as well as industry professionals in the various fields of mechanical engineering.

Progress in Computer Recognition Systems -

Robert Burduk 2019-05-07

This book highlights recent research on computer recognition systems, one of the most promising directions in artificial intelligence. Offering the most comprehensive study on this field to date, it gathers 36 carefully selected articles contributed by experts on pattern recognition. Presenting recent research on methodology and applications, the book offers a valuable reference tool for scientists whose work involves designing computer pattern recognition systems. Its target audience also includes researchers and students in computer science, artificial intelligence, and robotics.

Advanced Concretes and Their Structural Applications - Zhigang

Zhang 2022-09-23

Intelligent Robotics and Applications - Jeschke

Sabina 2011-11-29

The two volume set LNAI 7101 and 7102 constitute the refereed proceedings of the 4th International Conference on Intelligent Robotics and Applications, ICIRA 2011, held in Aachen, Germany, in November 2011. The 122 revised full papers presented were thoroughly reviewed and selected from numerous submissions. They are organized in topical sections on progress in indoor UAV, robotics intelligence, industrial robots, rehabilitation robotics, mechanisms and their applications, multi robot systems, robot mechanism and design, parallel kinematics, parallel kinematics machines and parallel robotics, handling and manipulation,

tangibility in human-machine interaction, navigation and localization of mobile robot, a body for the brain: embodied intelligence in bio-inspired robotics, intelligent visual systems, self-optimising production systems, computational intelligence, robot control systems, human-robot interaction, manipulators and applications, stability, dynamics and interpolation, evolutionary robotics, bio-inspired robotics, and image-processing applications.

Advances in Polarimetry and Ellipsometry:

Fundamentals and

Applications - Haofeng

Hu 2022-10-17

Improving Product Reliability and Software

Quality - Mark A. Levin

2019-03-19

The authoritative guide

to the effective design and production of reliable technology products, revised and updated. While most manufacturers have mastered the process of producing quality products, product reliability, software quality and software security has lagged behind. The revised second edition of *Improving Product Reliability and Software Quality* offers a comprehensive and detailed guide to implementing a hardware reliability and software quality process for technology products. The authors – noted experts in the field – provide useful tools, forms and spreadsheets for executing an effective product reliability and software quality development process and explore proven software quality and product reliability concepts.

The authors discuss why so many companies fail after attempting to implement or improve their product reliability and software quality program. They outline the critical steps for implementing a successful program. Success hinges on establishing a reliability lab, hiring the right people and implementing a reliability and software quality process that does the right things well and works well together. Designed to be accessible, the book contains a decision matrix for small, medium and large companies. Throughout the book, the authors describe the hardware reliability and software quality process as well as the tools and techniques needed for putting it in place. The concepts, ideas and material presented are appropriate for any

organization. This updated second edition: Contains new chapters on Software tools, Software quality process and software security. Expands the FMEA section to include software fault trees and software FMEAs. Includes two new reliability tools to accelerate design maturity and reduce the risk of premature wearout. Contains new material on preventative maintenance, predictive maintenance and Prognostics and Health Management (PHM) to better manage repair cost and unscheduled downtime. Presents updated information on reliability modeling and hiring reliability and software engineers. Includes a comprehensive review of the reliability process from a multi-disciplinary viewpoint including new material on uprating and counterfeit components.

Discusses aspects of competition, key quality and reliability concepts and presents the tools for implementation. Written for engineers, managers and consultants lacking a background in product reliability and software quality theory and statistics, the updated second edition of Improving Product Reliability and Software Quality explores all phases of the product life cycle.

Transactions on Intelligent Welding Manufacturing - Shanben Chen 2019-08-23

The primary aim of this volume is to provide researchers and engineers from both academia and industry with up-to-date coverage of recent advances in the fields of robotic welding, intelligent systems and automation. It gathers selected papers from the 2018 International Conference

on Robotic Welding, Intelligence and Automation (RWIA 2018), held Oct 20-22, 2018 in Guangzhou, China. The contributions reveal how intelligentized welding manufacturing (IWM) is becoming an inescapable trend, just as intelligentized robotic welding is becoming a

key technology. The volume is divided into four main parts: Intelligent Techniques for Robotic Welding, Sensing in Arc Welding Processing, Modeling and Intelligent Control of Welding Processing, and Intelligent Control and its Applications in Engineering.