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Logic
Application In
Civil
Engineering
n In Civil
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fuzzy logic

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**An Introduction
to Fuzzy Logic**

Fuzzy Logic

Application in

Real Life -

Robotics BE 6th

Civil_Module

1_Soft Computing

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Techniques (SCT)

| ~~Multi~~

~~Objective Fuzzy~~

~~Optimization~~

~~with Real-Time~~

~~Application | Dr~~

~~.C.Vijayalakshmi~~

| ~~□□ Prediction of~~

~~Concrete~~

~~Compressive~~

~~Strength in~~

~~Buildings that~~

~~would be~~

~~Reinforced by~~

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~~Fuzzy Logic~~

~~Fuzzy Logic~~

~~Application In
Computerfile~~

Fuzzy Logic in

Artificial

Intelligence |

Introduction to

Fuzzy Logic

\u0026

Membership

Function |

Edureka Lecture

1:Introduction:

Fuzzy Sets,

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Logic and
Systems \u0026
Applications By
Prof. Nishchal
K. Verma Fuzzy
logic

application
Fuzzy Logic in
Artificial
Intelligence
with Example |
Artificial
Intelligence
~~Introduction to~~

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~~Fuzzy Logic |~~
~~Fuzzy Logic What~~
is Fuzzy Logic
Perform Fuzzy
Lookups in Excel

FUZZY LOGIC
CONTROLLER BLOCK
DIAGRAM

solved Example
of mamdani
approach part 2
**Fuzzy Logic: An
Introduction**

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Fuzzy Logic
Controller with
solved example-
Introduction
*Example of Fuzzy
Logic
calculation*

Machine
Intelligence -
Lecture 17
(Fuzzy Logic,
Fuzzy Inference)
From Crisp Logic
to Fuzzy Logic

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by George Klir -

Workshop on

Fuzzy Logic

tutorial on

qtfuzzylite: a

fuzzy logic

control

application in

C++ Fuzzy

Analytic

Hierarchy

Process (FAHP)

for weight

calculation

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*Using Extent
Analysis method
fuzzy logic
applications in
hindi in
artificial
intelligence |
so easiest | by
Nauman malik
Fuzzy Logic
Tutorials |
Introduction to
Fuzzy Logic,
Fuzzy Sets*

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\u0026 Fuzzy Set
Operations

Lecture 2:

Introduction:

Real Life

Applications of
Fuzzy Systems By

Prof. Nishchal

K. Verma

-oldfile Oscar

Castillo: Type-2

Fuzzy Logic in

Intelligent

Control

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PDDC Sem 5:

MODULE 2- FUZZY
LOGIC AND ITS
APPLICATIONS

Fuzzy

*optimization for
water quality
control and
reservoir
operation*

Lecture 01:

*Introduction to
Fuzzy Sets*

Lecture 2:

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*Introduction:
Real Life
Applications of
Fuzzy Systems By
Prof. Nishchal
K. Verma Fuzzy
Logic
Application In
Civil*

Fuzzy Logic is defined as a many-valued logic form which may have truth

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values of variables in any real number between 0 and 1. It is the handle concept of partial truth. In real life, we may come across a situation where we can't decide whether the statement is true or false.

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At that time,
fuzzy logic
offers very
valuable
flexibility for
reasoning.

~~Fuzzy Logic
Tutorial: What
is, Application
& Example
Workshop on
Fuzzy Logic and
Applications in~~

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Civil

Engineering

Fuzzy logic is
widely used for

commercial and
practical

purposes It
helps you to
control machines

and consumer
products It may
not offer

accurate
reasoning, but

Download File

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the only
acceptable
reasoning It
helps you to
deal with the
uncertainty in
engineering

~~Fuzzy Logic
Application In
Civil
Engineering~~

The application
of models based

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on fuzzy logic offers the possibility of effectively approaching the creation of support systems for decision-making, since data can be extracted in a practical way...

~~(PDF)~~

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~~APPLICATION OF A
FUZZY INFERENCE
SYSTEM TO CIVIL~~
Civil

~~Engineering~~
This paper describes the application of fuzzy logic to discrete event simulation in dealing with uncertainties of construction operations. The

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uncertainties in the quantity of resources required to activate an activity are modeled with fuzzy sets in linguistic terms. The fuzzy logic if-then rule is built to control the activation of

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activities. The duration of the activity that varies with the quantities of resources involved is determined through the fuzzy logic rule-based model.

~~Application of
Fuzzy Logic to~~

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~~Simulation for
Construction ...~~

Workshop on
Fuzzy Logic and
Applications in
Civil

Engineering.

Introduction.

Fuzzy Logic is
getting
prominence in
recent days due
to its
potentiality in

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solving real
world planning
problems. Its
seamless
association with
Classical
Optimization
Techniques,
Evolutionary
Algorithms,
Multicriterion
Decision Making,
Artificial
Neural Networks

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making it most preferred domain for Civil Engineering Professionals.

~~Workshop on Fuzzy Logic and Applications in Civil Engineering Abstract and Figures In order to describe the~~

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phenomenon for which the mathematical model or input data are unknown, the fuzzy logic is applied. The fuzzy theory enables to find the most reliable...

~~(PDF)~~ The

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~~application of
fuzzy logic in
engineering ...~~

Here we discuss
the different
applications of
fuzzy logic:

Speech
recognition,
facial
characteristics
recognition are
the important
application of

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Fuzzy Logic.

Fuzzy Logic is used in the Aerospace

industry to

control the altitude of aircraft and satellites. In the anti-icing and deicing operation of ...

~~Applications of~~

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~~Fuzzy Logic |
Successful
Applications of
Civil~~

~~Engineering~~
In automotive,
fuzzy logic is
used in the
following areas
-. Trainable
fuzzy systems
for idle speed
control. Shift
scheduling
method for

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automatic
transmission.
Intelligent
highway systems.
Traffic control.
Improving
efficiency of
automatic
transmissions.

~~Fuzzy Logic~~
~~Applications~~
~~Tutorialspoint~~
lications and

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has been active in the research and teaching of fuzzy logic since 1983. He is the founding Co-Editor-in-Chief of the International Journal of Intelligent and Fuzzy Systems, the co-editor of Fuzzy Logic and

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Control:

Software and
Hardware

Applications,

and the co-

editor of Fuzzy

Logic and

Probability

Applications:

Bridging the

Gap.His

~~FUZZY LOGIC WITH
APPLICATIONS~~

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Fuzzy logic has been used in numerous applications such as facial pattern recognition, air conditioners, washing machines, vacuum cleaners, antiskid braking systems, transmission

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systems, control
of subway
systems and
unmanned
helicopters,
knowledge-based
systems for
multiobjective
optimization of
power systems,
weather
forecasting
systems, models
for new product

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pricing or
project risk
assessment,
medical
diagnosis and
treatment plans,
and stock
trading.

~~Real-Life
Applications of
Fuzzy Logic~~
What is Fuzzy
Logic? Fuzzy

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Logic

approximates
human reasoning
and balances the
tradeoff between
precision and
significance.

The term fuzzy
refers to things
which are not
clear or are
vague Based on a
system of non-
digital

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(continuous & fuzzy without crisp boundaries) set theory and rules. Developed by Lotfi Zadeh in 1965

~~Fuzzy Logic.pptx~~

~~Fuzzy Logic~~

~~JAMIE SERPICO~~

~~CSCI 312 What~~

...

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OF FUZZY-LOGIC
METHOD TO
CONTROL OF
ROBOTS: A REVIEW
STUDY free
download The
application of
fuzzy-logic
method in
control of
systems has
recently
attracted

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Logic
Application in
Civil
Engineering

increasing
interest. Fuzzy
controllers
exhibit a simple
and robust
framework for
specifying
control laws
that accommodate
uncertainty and
imprecision.

~~free research
paper fuzzy~~

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~~Logic recent
papers~~

Fuzzy logic are
used in Natural

Language

processing and
various

intensive

applications in
Artificial

Intelligence.

Fuzzy logic are
extensively used
in modern

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control systems such as expert systems. Fuzzy Logic is used with Neural Networks as it mimics how a person would make decisions, only much faster.

~~Fuzzy Logic |~~
~~Introduction —~~

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~~GeeksforGeeks~~

Application of
Fuzzy Logic in
Civil

Engineering in

Japan. In

various

engineering

fields, many

applications of

fuzzy logic have

been attempted,

some of which

have been

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applied for
practical use.
In this paper,
civil
engineering
applications of
fuzzy logic in
Japan are
introduced and
reviewed.

~~Application of
Fuzzy Logic in
Civil~~

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~~Engineering in
Japan~~

Fuzzy logic
refers to a
large subject
dealing with a
set of methods
to characterize
and quantify
uncertainty in
engineering
systems that
arise from
ambiguity,

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logic, imprecision,
fuzziness, and
lack of...

~~Fuzzy Logic with
Engineering
Applications—
Timothy J...~~

Aims & Scope.

The purpose of
the Journal of
Fuzzy Logic and
Modeling in
Engineering is

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to publish
recent
advancements in
the theory of
fuzzy sets and
disseminate the
results of these
advancements.
The journal
focuses on the
disciplines of
industrial
engineering,
control

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logic
Application In
Civil
Engineering,
mechanical
engineering,
civil
engineering,
management
engineering and
others.

~~Home Page ::::~~

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~~Journal of Fuzzy
Logic and
Application In
Modeling in ...~~

In technical applications, fuzzy control refers to programs or algorithms using fuzzy logic to allow machines to make decisions based on the practical

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knowledge of a human operator. The fundamental problem of automatic control is that of determining the appropriate response of the system, or production plant, for any given set of conditions.

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Logic

~~Fuzzy logic |~~
~~mathematics |~~

Britannica

One of the

common

application

areas that use

fuzzy logic is

computer-aided

diagnosis (CAD)

in medicine. CAD

is a

computerized set

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of inter-related tools which can be used to aid physicians in their diagnostic decision-making.

The latest update on this popular textbook
The importance of concepts and

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methods based on fuzzy logic and fuzzy set theory has been rapidly growing since the early 1990s and all the indications are that this trend will continue in the foreseeable future. Fuzzy Logic with Engineering

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Applications,
Fourth Edition
is a new edition
of the popular
textbook with
15% of new and
updated
material.

Updates have
been made to
most of the
chapters and
each chapter now
includes new end-

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of-chapter
problems. Key
features: New
edition of the
popular textbook
with 15% of new
and updated
material.

Includes new
examples and end-
of-chapter
problems. Has
been made more
concise with the

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removal of out of date material. Covers applications of fuzzy logic to engineering and science.

Accompanied by a website hosting a solutions manual and software. The book is essential

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reading for
graduates and
senior
undergraduate
students in
civil, chemical,
mechanical and
electrical
engineering as
wells as
researchers and
practitioners
working with
fuzzy logic in

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Industry.

Application In

This book is a
guide for

students,

researchers, and
practitioners to

the latest

developments in

fuzzy hybrid

computing in

construction

engineering and

management. It

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discusses basic theory related to fuzzy logic and fuzzy hybrid computing, their application in a range of practical construction problems, and emerging and future research trends.

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The 6th meeting sponsored by IFIP Working Group 7.5, on reliability and optimization of structural systems, took place in September 1994 in Assisi, Italy. This book contains the papers presented

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at the working conference including topics such as reliability of special structures, fatigue, failure modes and time-variant systems reliability.

Machine learning has undergone

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Logic growth in
Application in
Civil
Engineering
diversification
and
practicality,
and the
repertoire of
techniques has
evolved and
expanded. The
aim of this book
is to provide a
broad overview
of the available
machine-learning

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Logic
Application in
Civil
techniques that
can be utilized
for solving
civil

Engineering
problems. The
fundamentals of
both theoretical
and practical
aspects are
discussed in the
domains of water
resources/hydrological modeling,

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geotechnical
engineering,
Application In
construction
Civil
engineering and
Engineering and
management, and
coastal/marine
engineering.
Complex civil
engineering
problems such as
drought
forecasting,
river flow
forecasting,

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modeling
evaporation,
estimation of
dew point
temperature,
modeling
compressive
strength of
concrete, ground
water level
forecasting, and
significant wave
height
forecasting are

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also included.

Features

Exclusive

information on

machine learning

and data

analytics

applications

with respect to

civil

engineering

Includes many

machine learning

techniques in

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numerous civil
engineering
disciplines
Provides ideas
on how and where
to apply machine
learning
techniques for
problem solving
Covers water
resources and
hydrological
modeling,
geotechnical

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logic
Application In
Civil
Engineering
engineering,
construction
engineering and
management,
coastal and
marine

engineering, and
geographical
information
systems Includes
MATLAB®
exercises

Fuzzy logic

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Logic refers to a large subject dealing with a set of methods to characterize and quantify uncertainty in engineering systems that arise from ambiguity, imprecision, fuzziness, and lack of

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knowledge. This updated version concentrates on various topics of fuzzy logic combined with an abundance of worked examples, chapter problems and commercial case studies designed to help motivate a mainstream

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engineering

audience.

Application In

Civil

and Fuzzy Sets .

Classical

Relations and

Fuzzy Relations

· Properties of

Membership

Functions,

Fuzzification,

and

Defuzzification

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Logic and
Fuzzy Systems ·
Development of
Membership
Functions ·
Automated
Methods for
Fuzzy Systems ·
Fuzzy Systems
Simulation ·
Rule-base
Reduction
Methods ·
Decision Making

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with Fuzzy
Information ·
Application In
Fuzzy
Classification
and Pattern
Recognition ·
Fuzzy Arithmetic
and the
Extension
Principle ·
Fuzzy Control
Systems ·
Miscellaneous
Topics ·

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Monotone

Measures:
Belief,
Plausibility,
Probability, and
Possibility

The term "fuzzy logic," as it is understood in this book, stands for all aspects of representing and

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manipulating
knowledge based
on the rejection
of the most
fundamental
principle of
classical
logic---the
principle of
bivalence.

According to
this principle,
each declarative
sentence is

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required to be either true or false. In fuzzy logic, these classical truth values are not abandoned.

However, additional, intermediate truth values between true and false are allowed, which

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are interpreted as degrees of truth. This opens a new way of thinking-- thinking in terms of degrees rather than absolutes. For example, it leads to the definition of a new kind of sets, referred

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Logic as fuzzy sets, in which membership is a matter of degree. The book examines the genesis and development of fuzzy logic. It surveys the prehistory of fuzzy logic and inspects circumstances

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that eventually lead to the emergence of fuzzy logic. The book explores in detail the development of propositional, predicate, and other calculi that admit degrees of truth, which are known as fuzzy

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Logic in the narrow sense. Fuzzy logic in the broad sense, whose primary aim is to utilize degrees of truth for emulating common-sense human reasoning in natural language, is scrutinized as

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well. The book also examines principles for developing mathematics based on fuzzy logic and provides overviews of areas in which this has been done most effectively. It also presents a

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detailed survey of established and prospective applications of fuzzy logic in various areas of human affairs, and provides an assessment of the significance of fuzzy logic as a new paradigm.

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Since the late 1980s, a large number of very user-friendly tools for fuzzy control, fuzzy expert systems, and fuzzy data analysis have emerged. This has changed the character of this area and started the area

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of 'fuzzy
technology'. The
next large step
in the
development
occurred in 1992
when almost
independently in
Europe, Japan
and the USA, the
three areas of
fuzzy
technology,
artificial

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neural nets and
genetic
algorithms
joined forces
under the title
of
'computational
intelligence' or
'soft
computing'. The
synergies which
were possible
between these
three areas have

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been exploited
very
successfully.

Practical

Applications of
Fuzzy Sets

focuses on model
and real

applications of
fuzzy sets, and
is structured
into four major
parts:

engineering and

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natural
sciences;
medicine;
management; and
behavioral,
cognitive and
social sciences.
This book will
be useful for
practitioners of
fuzzy
technology,
scientists and
students who are

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Logic for
Application In
Civil
Engineering
looking for
applications of
their models and
methods, for
topics of their
theses, and even
for venture
capitalists who
look for
attractive
possibilities
for investments.

This report

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contains 27 papers that serve as a testament to the state-of-the-art of civil engineering at the outset of the 21st century, as well as to commemorate the ASCE's Sesquicentennial. Written

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by the leading practitioners, educators, and researchers of civil engineering, each of these peer-reviewed papers explores a particular aspect of civil engineering knowledge and practice. Each

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paper explores the development of a particular civil engineering specialty, including milestones and future barriers, constraints, and opportunities. The papers celebrate the history,

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heritage, and
accomplishments
of the
profession in
all facets of
practice,
including
construction
facilities,
special
structures,
engineering
mechanics,
surveying and

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mapping,
irrigation and
water quality,
forensics,
computing,
materials,
geotechnical
engineering,
hydraulic
engineering, and
transportation
engineering.

While each paper
is unique,

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collectively
they provide a
snapshot of the
profession while
offering
thoughtful
predictions of
likely
developments in
the years to
come. Together
the papers
illuminate the
mounting

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complexity
facing civil
engineering
stemming from
rapid growth in
scientific
knowledge,
technological
development, and
human
populations,
especially in
the last 50
years. An

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overarching
theme is the
need for systems-
level approaches
and
consideration
from
undergraduate
education
through advanced
engineering
materials,
processes,
technologies,

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logic design methods and tools. These papers speak to the need for civil engineers of all specialties to recognize and embrace the growing interconnectedness of the global infrastructure,

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economy,
society, and the
need to work for
more

sustainable, lif
e-cycle-oriented
solutions. While
embracing the
past and the
present, the
papers collected
here clearly
have an eye on
the future needs

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of ASCE and the
civil
Application In
engineering
Civil
profession.

Engineering

The field of
engineering is a
creative one.

The problems
encountered in
this field are
generally
unstructured and
imprecise and

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tackled by
intuitions and
past experiences
of a designer.

The conventional
methods of
computing,
relying on
analytical or em
pirical relations
, become time
consuming when
dealing with
real-life

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problems. To study, model and analyse such problems, approximate computer-based soft computing techniques, inspired by the reasoning, intuition, logic and wisdom possessed by human beings,

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are employed.

This book is an attempt to put together

knowledge and experience of soft computing techniques in civil

engineering. The principal concern of the book is to show how soft

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computing techniques can be applied to solve problems in research and practice. An attempt has been made to present various civil engineering research problems using soft computing techniques such

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as analytic
hierarchy
process (AHP),
fuzzy logic,
artificial
neural network
(ANN), genetic
algorithm (GA)
and linear
programming
(LP), etc.
Students and
research
scholars need a

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logic text or
reference book
which covers the
different
methods of soft
computing used
for civil
engineering
problems. Soft
computing
techniques are
applied to a
huge quantity of
problems spread

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in several areas of science. In contrast to conventional computing techniques which rely on exact solutions, soft computing aims at exploiting given tolerance of imprecision, the trivial and uncertain nature

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of the problem to yield an approximate solution to a problem in quick time. Soft computing being a multi-disciplinary field uses a variety of statistical, probabilistic and optimization

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tools which complement each other to produce its three main branches viz., Neural Networks, Genetic Algorithms and Fuzzy Logic. Six different soft computing techniques and their application to

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civil
engineering
problem has been
discussed. The
application of
the analytic
hierarchy method
has been
demonstrated
through solid
waste management
and project
indexing
problem. The

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fuzzy rule based technique is discussed with its application to condition assessment of water mains and reservoir operation.

Application of Artificial Neural Network (ANN) is discussed

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through
analysing ground
water quality
index and in
transportation
engineering.
Genetic
algorithm and
its application
on water
distribution
network have
been discussed.
The cellular

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automata
application in
the civil
engineering is
included in this
book. Lastly,
application of
linear
programming for
optimization of
cropping pattern
is also
included.

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This book is an attempt to accumulate the researches on diverse interdisciplinary field of engineering and management using Fuzzy Inference System (FIS). The book is organized in seven sections

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with twenty two chapters, covering a wide range of applications.

Section I, caters theoretical aspects of FIS in chapter one. Section II, dealing with FIS applications to management

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related problems
and consisting
three chapters.

Section III,
accumulates six
chapters to
commemorate FIS
application to
mechanical and
industrial
engineering
problems.

Section IV,
elaborates FIS

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application to
image processing
and cognition
problems

encompassing
four chapters.

Section V,
describes FIS
application to
various power
system
engineering
problem in three
chapters.

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Section VI highlights the FIS application to system modeling and control problems and constitutes three chapters. Section VII accommodates two chapters and presents FIS application to civil

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engineering
problem.

Application In

Civil

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1e10f7a59c569725
6779d3461e996c7a