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## **NEW BOOK SERIES: Innovation Management and Computing**

### ***Call for Book Chapters***

#### **SERIES EDITOR:**

Cyrus F. Nourani, PhD  
Research Professor, Simon Fraser University, British Columbia, Canada;  
Academic R&D at Berlin, Fraunhofer-IMK, and Munich, Germany  
E-mail: [Acdmkrd@gmail.com](mailto:Acdmkrd@gmail.com) or [cyrusfn@alum.mit.edu](mailto:cyrusfn@alum.mit.edu)

#### **ABOUT THE SERIES:**

Innovation is the generation and application of new ideas and skills to produce new products, processes, and services that improve economic and social prosperity. This new book series aims to cover important issues in the burgeoning field of innovation management and computing, from an overview of the field to its current and future contributions. The volumes will be of value and interest to computer and cognitive scientists, economists, engineers, managers, mathematicians, programmers, and engineers.

#### **FORTHCOMING VOLUMES IN THE SERIES:**

**Ecosystems and Technology: Idea Generation and Content Model Processing** (*now in production*) (*more information can be found here: <http://www.appleacademicpress.com/ecosystems-and-technology-idea-generation-and-content-model-processing/9781771885072>*)

#### **PROPOSED VOLUMES IN THE SERIES / CONTRIBUTIONS WELCOME:**

**Computing Predictive Analytics, Business Intelligence, and Economics Models**

**Haptic Computing Logic, Emotional Intelligence, Neurocognitive and Genetic Computing**

**Innovations on Agent Cooperation and Coordination**

**Diaphontaine Sets, Definability, Forcing and Computability**

**Newer Developments on Computability, Languages, Sets, and Model Theory**

**Economic Game Models and Predictive Analytics**

**Epistemic Computing, Model Checking, Spatial Computing and Ontology Languages**

**Content Processing, Intelligent Multimedia Databases, and Web Interfaces**

**Agent Software Engineering, Heterogeneous Computing, and Model Transformations**

#### **TO SUBMIT CHAPTER PROPOSALS:**

There is no fee for inclusion of chapters. Authors interested may submit a short proposal [title, authors' names and contact information, summary, keywords] of the chapter by email: [Acdmkrd@gmail.com](mailto:Acdmkrd@gmail.com). Authors who cannot meet this deadline of submission of full chapter can indicate their proposed date of submission for consideration. PLEASE DO NOT SUBMIT COPYRIGHTED ARTICLES that have been published unless you have reprint permission from the original publisher.

Manuscript specifications: e-copy of the full chapter submitted in Word on a letter-sized paper with no line numbering, a line spacing of

1.5, Times New Roman 11-point font size, margins top/bottom of 1", margins left/right of 1.25", and editable equations with an equation editor in WORD 2010. A typical chapter will include the title, authors' names with affiliation/email/ mailing address, introduction, literature review (if applicable), theoretical approach (if applicable), materials and methods, results and discussion, conclusions, summary, detailed list of keywords, references using numbering system and alphabetical order, any appendix, etc. Also, we prefer a numbering system for citations in the body of a chapter. More complete information is available upon request.

## **PROPOSED VOLUMES IN THE SERIES:**

### **Computing Predictive Analytics, Business Intelligence, and Economics Models**

Please submit proposals for chapters by December 15, 2016

The goal of this volume is to bring together research and system designers that address the scientific basis and the practical systems design issues that support areas ranging from intelligent business interfaces and predictive analytics, to economics modeling. This also includes data sciences, intelligent databases, and visual analytics areas and also encompasses enterprise modeling, decisions systems, economics models, predictive analytics, forecasting, model discovery data mining, and business objects.

Intelligent multimedia applications for management science and IT have been of interest areas for business schools and computing experts during the recent years. Among the areas that are being treated are modern portfolio analytics, heterogeneous computing, business objects, intelligent databases, business intelligence, ERP, and decision science. The value of big data is only multiplied by good data governance. Big data has big value; it also takes organization's big effort to manage well so that an effective governance discipline can fulfill its purpose. Consumers have been pledging their love for data visualizations for a while now, and data mining with multimedia discovery is the area being explored B2-B and EC, E-Business and the Intelligent Web ERP, CRM, Infrastructures, Portals, EJB and Interfaces, Business Objects, Tiers and RMI Basics, Corporate Portals are what the industry strives for. Vertical portal websites, called vortals, focus on the interaction between individuals, companies, or organizations in a particular business, skill, trade, or technology.

Topics include in this volume include:

- business interface designs
- business planning uncertainty models
- big data, data reduction, and governance
- EC and enterprise models
- ERP
- enterprise modeling
- data sciences
- databases and knowledge base
- multimedia data mining

### **Haptic Computing Logic, Emotional Intelligence, Neurocognitive and Genetic Computing**

Please submit proposals for chapters by January 15, 2017

This volume will focus on new significant accomplishments in areas ranging from neurocognition perception and decision making in the human brain, combining neurocognitive techniques, affective computing, to basic facial recognition computing models, including

- agent neurocomputing techniques for facial expression recognition
- computing haptic motion and ontology epistemics
- morph schemas characterizations for facial expressions computations
- genetic algorithms and neurocognitive bases
- learning and perceptive computing bases to expression recognition
- psychophysical methods, functional and structural neuroimaging modeling
- control virtual computing
- haptic logics for expression recognition
- examining the observed links between facial recognition and affective emotional processes
- the link brain function and behavior during perceptual decision-making processes
- interaction of cognitive and emotional processes during social decision-making
- neurocognitive processing of emotion facial expressions in individuals
- neurocognition and affective computing:

- identification and classification for affective computing
- neurocognitive affective system for an emotive robot androids.
- neurocognitive and psychophysiological interfaces.
- virtual reality- based affect adaptive neurocognitive:
- personality dimensions influences on the neurocognitive processing of emotional faces in individuals
- cognitive and affective neuroscience
- relationships between facial recognition, emotion processing, neurocognition, and perceptive type symptoms
- the association between facial recognition and affective emotional processing.

## Innovations on Agent Cooperation and Coordination

Please submit proposals for chapters by February 15, 2017

Due to the heterogeneity of multi-agent systems, a single approach focusing on all of the issues is often not enough. This volume's goals are to present new directions of research into the coordination and control of multi-agent systems, by bringing together researchers working in all areas. Intelligent agents possess several important computational roles. These include the ability to communicate, cooperate, and collaborate, but all these must be coordinated. This volume will present an overview of the abilities for coordination and cooperation. Self-interest is a key characteristic of multi-agent systems. Agents pursue their individual objectives. These objectives, while consistent but can be completely contradicting, often require cooperation between agents, and in particular, often cannot be ensured by individual agents. As a consequence, actions and behaviors need to be coordinated to satisfy the agents' objectives; however they also have to be controlled to meet the encompassing goal system's specifications. Coordination games can represent interactions between multiple agents in many real-life situations. Combining model-learning techniques, agents tend to become more consistent in effective cooperative behavior.

Topic areas on the special issue will include:

- Formal methods for cooperation and coordination: this area has been successfully applied to coordinate and control multi-agent systems. Among other things, an advantage of formal methods in comparison to non-formal ones is that they allow for rigorous system specification, verification and automation.
- Coordination and cooperation with agent game tree planning
- The cognitive models of agents, as well as agent communication languages, are heavily influenced by multi-agent logics, logic-based approaches are most often used directly to describe and to reason about the system from the outside, as opposed to actively change the state of the system or to reach agreements by agents inside the system.
- Agent Coordination and Cooperation cognitive loops: There is a cognitive loop that replicates the link between coordination and cooperation in systems such as organizations, management and biological systems. This section will also present the advantages, consequences and challenges associated with implementation.
- Agreement technologies are tailor-made for allowing agents to arrive at agreements. Their acceptance affects the behavior of the agents and depends on the way norm violations are detected and sanctioned.

Aspects that influence agents' behavior, including:

- strategic power
- argumentation abilities,
- resource limitations,
- social dependencies, and roles.
- interaction between rational decision makers in general, and coordination problems in particular

Research topics that might be presented with specific goals:

- Identification of coordination and control problems in agreement technologies, game theory and multi-agent logic, and what they have in common
- Identification of implicit assumption made in. the inter-agent coordination
- Exploring the ties between formal systems, logic, games, and agreement technologies
- Computational methods for the coordination of multi-agent systems
- Sequential optimality and coordination in multi-agent systems
- Agent learning
- Novel models, languages, formalisms, programming and implementation techniques
- Coordination technologies, systems and infrastructures applications
- Middleware platforms
- Formal aspects (semantics, reasoning, verification)
- Software architectures and software engineering techniques
- Coordination of multi-agent systems, including mobile agents,
- Self-organizing, self-adaptive and nature-inspired coordination approaches

- Relationship with other computational models such as object-oriented, declarative (functional, logic, constraint) programming or their extensions with coordination capabilities
- Agent description specification agreement technologies
- formal verification and specification of multi-agent systems
- multi-agent logics
- game logics
- models of coordination and control in multi-agent systems

### **Diaphontaine Sets, Definability: Forcing and Computability**

Please submit proposals for chapters by March 15, 2017

This volume will consider our newest thought processes, from mathematics to computability, and our mutual innovations on thought processes that merge computability with a mathematics foundation, with theories from pioneers such as Gödel and Hilbert, and Kant, Frege, and Turing, which have permeated newer thoughts on algebraic structure for computability, arithmetic and recursion hierarchies, complexity degrees, and bounded computability.

Proposed topics:

- Turing computability and generic jumps
- arithmetic hierarchy and definability
- bounded quantification and computability
- abstract algebra complexity
- recursion theoretic hierarchies
- degrees and computability
- horn models and products
- implicit descriptive complexity
- degrees, games, and priorities
- creative sets and computability
- term rewriting computability and alternative Gentzen systems

### **Newer Developments on Computability, Languages, Sets, and Model Theory**

Please submit proposals for chapters by April 15, 2017

This volume will bring us closer to pure mathematics innovations that have permeated our computation thoughts and shapes a new generation on thought processes. Categories, models, set theory and mathematical linguistics interaction with computability will be presented.

- Gödel sets and ordinal computability
- newest trends on automata and formal languages
- Peano arithmetic models
- topos and categorical computing
- realizability and computability
- monads, filters, and computability
- projective sets and saturation computability
- graph grammars and categorical computing KPU and admissible sets
- categorical linguistics

### **Economic Game Models and Predictive Analytics**

Please submit proposals for chapters by May 15, 2017

This volume presents topics ranging from business modeling, objectives, and planning to model discovery and forecasting, to economic game models with precise decision strategies on multiplayer games, serious games, new game tree computation techniques, competitive model games.

Topic areas include:

- artificial economics
- business plan optimization

- competitive model games
- data analytics
- game logic
- descriptive game logic
- economics game model compatibility
- von Neumann, Morgenstern, Kuhn games
- game goal stasifiability models.
- multigent economic games modeling
- Nash equilibrium and game models
- matrix games
- optimal games
- predictive models
- zero-sum and arbitrary games

### **Epistemic Computing, Model Checking, Spatial Computing and Ontology Languages**

Please submit proposals for chapters by May 15, 2017

This volume will explore how we can process all the contents that billions of devices on the Internet interface with. Intelligent multimedia databases and content processors, content delivery, deductive interfaces to web and trade systems will be the topical areas developed.

Topic areas:

- alternative Gentzen systems
- computational epistemology
- learning and ontology models
- competitive model learning
- model checking
- descriptive computing
- description logic
- geometric and spatial computing
- model-based reasoning
- ontology languages
- ontology algebras
- virtual ontology
- computational concept analysis and ontology

### **Content Processing, Intelligent Multimedia Databases, and Web Interfaces**

Please submit proposals for chapters by May 15, 2017

This volume will bring us up to date on where computational innovations in general are presented. Areas considered are spatial computing and automated visual deduction, intelligent multimedia databases, epistemic computing, knowledge representation, model checking, and ontology languages. A volume on the engineering processes that make all that a reality, from android robots to smart cities with all automatic efficient managed resources, are considered with agent software engineering and program model transformations.

Topic areas include:

- content models
- content languages
- visual databases
- semantic web and web language processing
- mulimedia data mining
- content processing
- virtual reality
- content delivery networks
- web rule reasoning
- multimedia and windows operating systems

- ontology and mobile computing
- social media computing interfaces
- deductive content processing

#### **ABOUT THE SERIES EDITOR:**

Dr. Cyrus F. Nourani has a national and international reputation in computer science, artificial intelligence, mathematics, virtual haptic computation, information technology, predictive analytics, economics game models, decision trees, and management sciences. He has many years of experience in the design and implementation of computing systems. Dr. Nourani's academic experience includes faculty positions at the University of Michigan-Ann Arbor, the University of Pennsylvania, the University of Southern California, UCLA, MIT, and the University of California, Santa Barbara. He was a Visiting Professor at Edith Cowan University, Perth, Australia, and a Lecturer of Management Science and IT at the University of Auckland, New Zealand. His more recent years engagements are research professor at SFU Burnaby, British Columbia, Canada, and TU Berlin, Germany.

Dr. Nourani commenced his university degrees at MIT where he became interested in algebraic semantics. That was pursued with a category theorist at the University of California. Dr. Nourani's dissertation on computing models and categories proved to have novel mathematical foundations developments that were published from his postdoctoral times on at AMS, ASL, and European mathematics circles. He has taught AI to the Los Angeles aerospace industry and has authored many R&D and commercial ventures. He has written and co-authored several books. He has over 400 publications in management sciences, pure mathematics, computer science and has written on additional topics, such as AI, EC, decision trees, and predictive economics game modeling. In 1987, he founded Ventures for computing R&D. He began independent consulting with clients such as System Development Corporation (SDC), the US Air Force Space Division, and GE Aerospace. Dr. Nourani has designed and developed AI robot planning and reasoning systems at Northrop Research and Technology Center, Palos Verdes, California. He also has comparable AI, software, and computing foundations and R&D experience at GTE Research Labs .He has written over 15 invention disclosures on the above areas.

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