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# SYSTEMS ENGINEERING AND AUTONOMOUS CONTROL: A Tribute to Professor Mo Jamshidi

Edited By

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## ABOUT THE BOOK

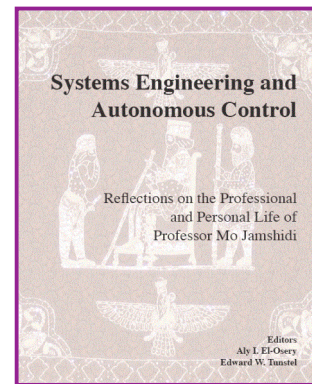
Professor Mo Jamshidi is a scholar, researcher, and educator well known around the globe for his contributions to modeling, control, and applications of large-scale complex systems, a building block of System of Systems Engineering. By the year 2005, he graduated close to 80 M.S. and Ph.D. engineering degree recipients, and was advisor or mentor to some 60 additional recipients of graduate engineering degrees.

As a tribute to Mo Jamshidi's contributions to the engineering profession and as a token of appreciation from his former graduate students, a one-day *Workshop on Systems and Intelligent Control* was organized in his honor on the 14th of October 2005. At the workshop, former and current graduate students presented a broad range of topics, all of which are related in one way or another to his areas of technical interest. They are included in this book as contributed papers covering Robotics and Intelligent Control; Industrial Control System Applications; Large-Scale System Technology; Communication Networks and Systems; Soft Computing Theory and Applications.

In addition to the papers contributed by engineers who were academically advised by Mo Jamshidi, forewords by preeminent scholars of systems and control engineering are included. The remaining content includes personal contributions of by his family, friends, and colleagues as well as an autobiographical story and 16 selected technical papers authored by him and spanning 30 years of research.

## FEATURES

- Forewords written by six preeminent scholars of systems and control engineering.
- Autobiographical story of Professor Mo Jamshidi.
- Contributed technical papers covering robotics, intelligent control, industrial control applications, large-scale systems, communications systems, and soft computing.
- 16 selected journal papers spanning 30 years of research.
- Personal commentaries from family, friends and close colleagues.



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**FOREWORDS TO THE VOLUME** by *F. Reza, L.A. Zadeh, A.P. Sage, E.I. Jury, M. Mansour and J. Tien*

### PERSONAL SECTION

- *Personal Story*
- *Personal CV and List of Publications*

### BOOKS AND JOURNALS OF MO JAMSHIDI

### GRADUATE STUDENTS OF MO JAMSHIDI

### CONTRIBUTED PAPERS

- *On Evolution of Evolution*
- *First Order Gain Estimation in a State-Feedback Control Scheme for Neutron Power Control*
- *Automatic Way Point Generation for Multi-robot Navigation*
- *Stochastic Power Control of Signal Transmission Power Level in Wireless Networks*
- *On Modeling and Simulation of Large-Scale Complex Systems, Processes, and Behaviors*
- *Adaptive Fuzzy Backstepping Control for Single-Link Flexible-Joint Robot*
- *Imprecise Probabilities for Engineering Systems*
- *Face Recognition by Combining Multi-Layer Neural Networks with Principal Component Analysis*
- *A Survey of Technology Development s for Homeland Defense – An Air Force Engineering Manager's Perspective*
- *Modeling and Simulation of Hepatic Drug Metabolism: In Silico Hepatic Intrinsic Clearance*
- *Fuzzy Logic and Application in MR Image Segmentation*
- *Optimal Node Density Estimation in Sensor Networks*
- *En Masse Data Comparison Techniques for Application to Very Large Data Sets*
- *Robust PID Control Design for Permanent Magnet Synchronous Motor: A Genetic Approach*
- *Evolution of an Architecture and Mobile Robots for Autonomous Navigation and Control Research*
- *Neural Network, Fuzzy Rules Based and Fuzzy Neural Network Classification on Remote Sensing*

**SELECTED JOURNAL PAPERS OF MO JAMSHIDI** (*see reverse*)

**COLLECTION OF PHOTOS FROM THE WORKSHOP**

**PERSONAL COMMENTS FROM FRIENDS OF MO JAMSHIDI**

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