APPENDICES

APPENDIX A. PROFESSIONAL EXPERIENCE OF PANELISTS

Name: **Raj Reddy (Panel Chair)**

Address: School of Computer Science
Carnegie Mellon University
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Dr. Reddy is Dean of the School of Computer Science at Carnegie Mellon University and the Herbert A. Simon University Professor of Computer Science and Robotics. He began his academic career as an assistant professor at Stanford in 1966. He joined the Carnegie Mellon faculty as an associate professor of computer science in 1969, full professor in 1973, a university professor in 1984 and Simon University Professor in 1992. He served as the founding Director of the Robotics Institute from 1979 to 1991 and as Dean of the School of Computer Science since 1991. He received a BE degree (University of Madras, India, 1958), MTech degree (University of New South Wales, Australia, 1960), PhD (Computer Science, Stanford University, 1966).

His research interests include the study of human-computer interaction and artificial intelligence. His current research projects include speech recognition and understanding systems; collaboration on the Web; universal digital libraries; and learning on demand.

His professional honors include the following: Fellow of the Institute of Electrical and Electronics Engineers, Fellow of the Acoustical Society of America, Fellow of the American Association for Artificial Intelligence, Member of the National Academy of Engineering, and Member of the American Academy of Arts and Sciences. He was president of the American Association for AI from 1987 to 1989. He is a recipient of the IBM Research Ralph Gomory Fellow Award in 1991. Dr. Reddy was awarded the Legion of Honor by President Mitterand of France in 1984. He was a recipient of the ACM Turing Award in 1995. He was named a member of the President's Information Technology Advisory Committee (PITAC) in 1997.

Name: **Tryg Ager**

Address: IBM Almaden Research Center
650 Harry Rd., San Jose, CA 95122

Dr. Ager is the leader of Digital Library Pilots and Prototypes projects at the IBM Almaden Research Center, San Jose, CA. Recent projects include university electronic journal collections, a special collections project with the Library of Congress, integration of automated library systems with digital library, country-wide digital library systems, and digital libraries for training and analysis for the U.S. Department of Defense. Prior to joining IBM in 1994, he was a consultant for the Institute for Defense Analyses and helped plan and implement worldwide multimedia networking for the U.S. Department of Defense Dependents Schools, a K-12 school system for children of U.S. military personnel stationed abroad. From 1978 to 1994 he was Senior Research Scientist at the Institute for Mathematical Studies in the Social Sciences at Stanford University, working on many projects to create, test, and disseminate programs for computer-based instruction in logic and mathematics.

He graduated from St. Olaf College (BA) and received a PhD (philosophy) from the University of Pittsburgh.

Name: **Rama Chellappa**

Address: Department of Electrical Engineering and Center for Automation Research
University of Maryland
College Park, MD, 20742.

Dr. Chellappa is a professor of electrical engineering and an affiliate professor of computer science at the University of Maryland in College Park. He is also affiliated with the Center for Automation Research (Associate Director) and the Institute for Advanced Computer Studies. Prior to joining the University of Maryland, he was an associate professor and Director of the Signal and Image Processing Institute at the University of Southern California.

Several of his journal papers have been included in *Collected Works* published by IEEE Press, IEEE Computer Society Press and MIT Press. He has edited a collection of papers on digital image processing (published by IEEE Computer Society Press), co-authored a research monograph on artificial neural networks for computer vision (with Y.T. Zhou) published by Springer Verlag, and co-edited a book on Markov random fields (with A.K. Jain) published by Academic Press. He has served as an associate editor for the *IEEE Transactions on Signal Processing, Image Processing, Neural Networks,* and as a co-Editor-in-Chief of *Graphical Models and Image Proce*ssing, published by Academic Press. He is serving as an associate editor of *IEEE Transactions on Pattern Analysis and Machine Intelligence*. He has received several awards, including the 1985 NSF Presidential Young Investigator Award, a 1985 IBM Faculty Development Award, the 1991 Excellence in Teaching Award from the School of Engineering at USC, and the 1992 Best Industry Related Paper Award from the International Association of Pattern Recognition (with Q. Zheng). He has been recently elected as a Distinguished Research Fellow (1996-1998) at the University of Maryland. He is a Fellow of the IEEE and the International Association for Pattern Recognition. He has served as a general and technical program chair for several IEEE international and national conferences and workshops. His current research interests are image compression and automatic target recognition.

Name: **W. Bruce Croft**

Address: Computer Science Department
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Dr. Croft is a Professor in the Department of Computer Science at the University of Massachusetts, Amherst, which he joined in 1979. In 1992, he became the Director of the NSF-State-Industry-University Collaborative Research Center for Intelligent Information Retrieval, which combines basic research with technology transfer to a variety of government and industry partners.

His research interests are information retrieval models, text representation techniques, the design and implementation of text retrieval and filtering systems, and user interfaces. He has published more than 100 articles on these subjects. This research is also being used in a number of operational retrieval systems. He was Chair of the ACM Special Interest Group on Information Retrieval from 1987 to 1991, and is an ACM Fellow. He is currently Editor-in-Chief of the *ACM Transactions on Information Systems* and an associate editor for *Information Processing and Management*. He has served on numerous program committees and has been involved in the organization of many workshops and conferences. He received the B.Sc. (Honors) degree in 1973, and an M.Sc. in computer science in 1974 from Monash University in Melbourne, Australia. His PhD in Computer Science is from the University of Cambridge, England in 1979.

Name: **Beth Davis-Brown**

Address: Digital Project Conversion Coordinator
Law Library of Congress/NDLP LAW/PUBLIC/NDLP (3125)
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Ms. Davis-Brown has worked professionally in academic, technical, and special libraries since receiving the MSLS from the University of Tennessee in 1984. Since late 1994, she has been working with digital libraries at the Library of Congress. She also coordinated a three-day conference on "Cataloging Digital Documents" held at the Library and the University of Virginia. Since 1995, she has been the contact person for the LC National Digital Library Program (NDLP) specializing in issues of bibliographic control of digital materials, coordinating Library sponsorship of the Encoded Archival Description (EAD) development effort, and assisting in implementation of SGML encoded finding aids. In addition to these tasks, in January of 1997 she took over as Digital Conversion Project Coordinator for the Law Library of Congress. In this position, she supervises a team in an effort to convert and make available via the WWW over 350,000 page images from early congressional materials and over 668,000 kilobytes of encoded text. She also serves as co-Contracting Officer's Technical Representative on the paper scanning/SGML conversion contract for the entire NDLP. She also continues as co-chair of a Library-wide committee on implementation of the EAD and as a participant in issues concerning digital repository developments.

Name: **Jerry M. Mendel**

Address: Department of Electrical Engineering-Systems
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Dr. Mendel received a PhD (1963) in electrical engineering from the Polytechnic Institute of Brooklyn, Brooklyn, NY. Currently he is Professor of Electrical Engineering and Associate Director of Education for the Integrated Media Systems Center (an NSF Engineering Research Center), at the University of Southern California at Los Angeles, where he has been since 1974. He has published over 360 technical papers and is author or editor of seven books, including *Lessons in Estimation Theory for Signal Processing, Communications and Control* (Prentice-Hall, 1995), *Maximum-Likelihood Deconvolution* (Springer-Verlag, 1990), *and A Prelude to Neural Networks: Adaptive and Learning Systems* (Prentice-Hall, 1994). He is also author of the *IEEE Individual Learning Program, Kalman Filtering, and Other Digital Estimation Techniques.* He served as Editor of the IEEE Control Systems Society's *IEEE Transactions on Automatic Control*. His present research interests include higher-order statistics applied to array signal processing; fuzzy logic applied to a wide range of problems that involve uncertainty, including prediction of nonlinear time series, modulation classification, and social science problems; and hysteretic neural networks with applications in optimization and identification of systems that include hysteresis.

Dr. Mendel is a Fellow of the IEEE, Distinguished Member of the IEEE Control Systems Society, member of the IEEE Signal Processing Society, the International Neural Networks Society, the European Association for Signal Processing, Tau Beta Pi, Pi Tau Sigma, and Sigma Xi, and a registered Professional Control Systems Engineer in California. He was President of the IEEE Control Systems Society in 1986. He received the Society of Exploration Geophysicist's 1976 Outstanding Presentation Award for a paper on the application of Kalman Filtering to deconvolution; the 1983 Best Transactions Paper Award for a paper on maximum-likelihood deconvolution in the *IEEE Transactions on Geoscience and Remote Sensing*; the 1992 Signal Processing Society Paper Award for a paper on identification of nonminimum phase systems using higher-order statistics in the *IEEE Transactions on Acoustics, Speech, and Signal Processing*; a Phi Kappa Phi book award for his 1983 research monograph on seismic deconvolution; a 1985 Burlington Northern Faculty Achievement Award; a 1984 IEEE Centennial Medal; and the 1993 Service Award from the School of Engineering at USC.

Name: **Michael Ian Shamos**

Address: Language Technologies Institute
263 Cyert Hall, Carnegie Mellon University
Pittsburgh, PA 15213, USA.

Dr. Shamos is a member of the faculty of the Computer Science Department at Carnegie Mellon University, and Director, Universal Library, in Carnegie Mellon's Language Technologies Institute. He is also a Partner in the law firm of Webb Ziesenheim Bruening Logsdon Orkin & Hansen, specializing in intellectual property law. He received his BS (physics) from Princeton University, MA (Vassar College, Physics), and PhD (computer science) from Yale University and in law (J.D. cum laude from Duquesne University). Prior to becoming Director of CMU's Universal Library, Dr. Shamos held a number of teaching and research positions at CMU; he has practiced law, both privately and with several firms; and he has been involved in the software industry, as President of Lexeme Corporation (automated computer language translation) and as President of Unus, Inc. (document composition systems).

He is author (with F.P. Preparata) of the book *Computational Geometry: An Introduction.* Springer Verlag (1985, rev. ed., 1988, Russian edition, 1989, Japanese edition, 1992) and numerous papers in computational geometry, analysis of algorithms and computerized voting systems.