Distinguished Lecture Series 2014

Computer Science
UNIVERSITY OF TORONTO

Bahen Centre for Information Technology
40 St. George Street, Room 1170
www.cs.toronto.edu/dcs/dls
For more information contact:
dcsevents@cs.toronto.edu

Brad Myers

TUESDAY, SEPT 30 11 AM

Professor, Human-Computer Interaction Institute,
School of Computer Science, **Carnegie Mellon University**

Brad Myers is the principal investigator for the Natural Programming Project and the Pebbles Handheld Computer Project. He has been a consultant on user interface design and implementation to over 75 companies, and regularly teaches courses on user interface design and software. He is IEEE Fellow, ACM Fellow, a member of the CHI Academy and winner of three Most Influential Paper Awards. Myers' research interests focus on user interface development systems, user interfaces, handheld computers, programming environments, programming language design, programming by example, visual programming, interaction techniques, and window management.

Satish Tripathi

TUESDAY, OCT 28 11 AM

President, **University at Buffalo, The State University of New York**

Satish Tripathi was appointed the 15th president of the University at Buffalo in 2011. He served as UB's provost from 2004-2011, was dean of the Bourns College of Engineering at the University of California-Riverside from 1997-2004. Previously, he spent 19 years as professor of computer science at the University of Maryland, including seven years as department chair. Fellow of the IEEE and AAAS, Tripathi also he holds an honorary doctorate from the Indian Institute of Information Technology, Allahabad. A member of the Mid-American Conference Council of Presidents Executive Committee and the boards of the Council for Higher Education Accreditation and the Digital Preservation Network, he was appointed by Governor Cuomo as co-chair of the Regional Economic Development Council for Western New York.

Christos Faloutsos

TUESDAY, NOV 4 11 AM

Professor, Computer Science, **Carnegie Mellon University**

Christos Faloutsos received the Presidential Young Investigator Award by the National Science Foundation in 1989, the Research Contributions Award in ICDM in 2006, the SIGKDD Innovations Award in 2010, and two Test of Time awards. He is an ACM Fellow, and has served as a member of the executive committee of SIGKDD. He holds eight patents and he has given over 35 tutorials and over 15 invited distinguished lectures. His research interests include data mining for graphs and streams, fractals, database performance, and indexing for multimedia and bio-informatics data.

Karen Myers

TUESDAY, NOV 18 11 AM

Program Director, Intelligent Mixed-initiative Planning and Control Technologies (IMPACT),
Artificial Intelligence Center, **SRI International**

Karen Myers is a Principal Scientist within the Artificial Intelligence Center at SRI International, where she leads a team focused on developing intelligent systems that facilitate man-machine collaboration. Myers has led the development of several AI technologies that have been successfully transitioned into operational use in areas that span collaborative systems, task management, and learning from demonstration. Her research interests include autonomy, multi-agent systems, automated planning, personalization, and mixed-initiative problem solving.

DCS 50 DISCOVER. CREATE. SUCCEED.

Celebrating 50 years of the Department of Computer Science, University of Toronto

Computer Science
UNIVERSITY OF TORONTO

2013-2014

Distinguished Lecture Series

Bahen Centre for Information Technology, Rm 1180, 11:00 a.m.

Probabilistic Models of Diversity: Determinantal Point Processes in Machine Learning

Ben Taskar

Boeing Associate Professor, Computer Science and Engineering, University of Washington

Tuesday, October 15

Taskar's research interests include machine learning, natural language processing and computer vision. He has been awarded the Sloan Research Fellowship, the NSF CAREER Award, and selected for the Young Investigator Program by the Office of Naval Research and the DARPA Computer Science Study Group. His work on structured prediction has received best paper awards at several conferences.

Software Defined Networks and Streamlining the Plumbing

Nick McKeown

Kleiner Perkins, Mayfield, and Sequoia Professor, Faculty Director of the Open Networking Research Center; Electrical Engineering and Computer Science, Stanford University

Tuesday, November 12

McKeown's current research interests include software defined networks (SDN), how to enable more rapid improvements to the Internet infrastructure, and tools and platforms for networking research and teaching. He has co-founded a number of companies and the Open Networking Foundation (ONF) in 2011. McKeown is a member of the US National Academy of Engineering (NAE), a Fellow of the Royal Academy of Engineering (UK), Fellow of the IEEE and the ACM. He has been awarded the British Computer Society Lovelace Medal, the IEEE Kobayashi Computer and Communications Award and the ACM Sigcomm Lifetime Achievement Award.

Robots Among Us? Socially assistive human-robot interaction

Maja Mataric

Chan Soon-Shiong Chair, Computer Science, Neuroscience and Pediatrics; Vice Dean for Research, Viterbi School of Engineering; Founding Director, USC Center for Robotics and Embedded Systems; Director, USC Robotics Research Lab

Tuesday, January 14

Mataric's lab focuses on enabling robots to help people through social rather than physical assistance. Her research into socially assistive robotics is developing robot-aided therapies for autism, stroke rehabilitation, dementia, and obesity mitigation by developing algorithms for human-robot interaction that involve embodiment, social dynamics, and long-term adaptation. Among other honors, Mataric is a Fellow of the AAAS and IEEE, recipient of the Presidential Mentoring Award, the Okawa Foundation Award, NSF Career Award, MIT TR35 Innovation Award, and the IEEE Robotics and Automation Society Early Career Award.

COLLABORATION • INNOVATION • DISCOVERY

2012-2013 Distinguished Lecture Series

Umesh Vazirani

Roger A. Strauch Professor, Electrical Engineering & Computer Science UC Berkeley

QUANTUM HAMILTONIAN COMPLEXITY: THROUGH THE COMPUTATIONAL LENS

Bahen Centre 1170
40 St. George Street

Tuesday, Oct. 30; 11am

Prof. Vazirani's research focuses on algorithms and complexity, the computational foundations of randomness, and novel models of computation. His 1993 paper with Ethan Bernstein helped launch the field of quantum complexity theory. He is the author of two books, "An introduction to computational learning theory" with Michael Kearns, and "Algorithms" with Sanjoy Dasgupta and Christos Papadimitriou. He is a fellow of the ACM and recipient (with Arora and Rao) of the 2012 Fulkerson Prize for his work on graph separators.

Juliana Freire

Professor, Computer Science & Engineering
Polytechnic Institute of New York University

EXPLORING BIG AND NOT SO BIG DATA

Bahen Centre 1170
40 St. George Street

Tuesday, Dec. 4; 11am

Prof. Freire's recent research focuses on Web-scale data integration, big-data analysis and visualization, and provenance management. Prof. Freire is an active member of the database and Web research communities. She has co-authored over 120 technical papers, and holds 8 U.S. patents. She is a recipient of an NSF CAREER Award and an IBM Faculty Award. Prof. Freire also holds an appointment in the Courant Institute for Mathematical Sciences. Prior to joining NYU, Prof. Freire was on faculty at the University of Utah, and before this, a member of technical staff at Bell Laboratories (Lucent Technologies).
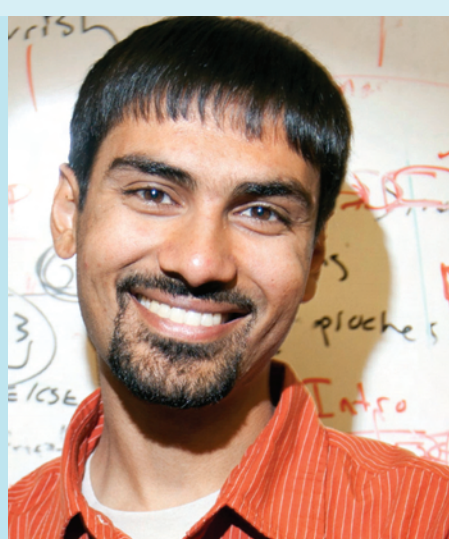
Shwetak Patel

Assistant Professor, Computer Science & Engineering, Electrical Engineering University of Washington

APPLICATIONS OF COMPUTING TO ENERGY AND HEALTH

Bahen Centre 1180
40 St. George Street

Tuesday, Jan.29; 11am

Prof. Patel's research interests are in the areas of human-computer interaction, ubiquitous computing, sensor-enabled embedded systems, and user interface technology. His particular focus is on developing easy-to-deploy sensing technologies and approaches for activity recognition and energy monitoring applications. In 2009, Prof. Patel received a TR-35 award and in 2010 he was named top innovator of the year by Seattle Business Magazine. In 2011, Prof. Patel was named a MacArthur Foundation Fellow. He also received a 2011 Microsoft Research Faculty Fellowship and, in 2012, an Alfred P. Sloan Foundation Fellowship.

Eberhart Zrenner

Chair Professor of Ophthalmology
Centre for Ophthalmology
Institute for Ophthalmic Research
University of Tübingen

ADVANCES IN SUBRETINAL IMPLANTS

Medical Sciences 2158
1 King's College Circle

Tuesday, Apr. 30; 11am

Prof. Dr. med. Eberhart Zrenner trained as an engineer before studying medicine and has become one of the foremost retinal electrophysiologists and psychophysicists. His research interests include retinal physiology and pathophysiology, neuro-ophthalmology, ophthalmic toxicology, retina implants and methods of non-invasive function testing. He is Principal Investigator of several clinical studies and has developed a subretinal active microphotodiode array (MPDA) to replace degenerated photoreceptors in blind people. He serves for the German Research Council on several projects and is the recipient of several international awards, author of more than 200 publications and coordinator of several European grants.

COLLABORATION • INNOVATION • DISCOVERY

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Distinguished Lecture Series
2011-2012

11:00 a.m.

Bahen Centre for Information Technology, 40 St. George Street, Room 1180, Toronto

Saul Greenberg

PROFESSOR AND NSERC/AITF/SMART TECHNOLOGIES
INDUSTRIAL RESEARCH CHAIR IN
INTERACTIVE TECHNOLOGIES
DEPARTMENT OF COMPUTER SCIENCE
UNIVERSITY OF CALGARY

Saul Greenberg's research is in the areas of Human Computer Interaction, Computer Supported Cooperative Work, and Ubiquitous Computing. Though a computer scientist by training, Prof. Greenberg's research reflects the cross-disciplinary nature of these areas. Prof. Greenberg was awarded a University Professorship by the University of Calgary in recognition of his research excellence. In 2007, he received the CHCCS Achievement award and was elected to the ACM CHI Academy in 2005 for his overall contributions to the field of Human Computer Interaction.

Proxemic Interactions: the New Ubicomp?

SEP 20, 2011

Alon Halevy

HEAD OF DATABASE RESEARCH GROUP
GOOGLE INC.

Alon Halevy's team develops techniques for enabling a broad class of users to create, visualize, publish, and discover structured data on the Web. Prior to joining Google, Dr. Halevy was a professor of Computer Science at the University of Washington. Dr. Halevy is a Fellow of the Association for Computing Machinery, received the the Presidential Early Career Award for Scientists and Engineers in 2000, and was a recipient of the Alfred P. Sloan Fellowship in 1999.

Bringing Web Databases to the Masses

OCT 11, 2011

Christos Papadimitriou

C. LESTER HOGAN PROFESSOR OF EECS
COMPUTER SCIENCE DIVISION
UNIVERSITY OF CALIFORNIA AT BERKELEY

Christos Papadimitriou's research focuses on algorithms and complexity, and their applications to optimization, databases, AI, economics, and the Internet. Prior to joining Berkeley in 1996, Prof. Papadimitriou taught at Harvard, MIT, Athens Polytechnic, Stanford, and UCSD. Prof. Papadimitriou holds a PhD from Princeton, and honorary doctorates from ETH (Zurich), Athens Polytechnic, and the Universities of Macedonia, Athens, Cyprus, and Patras. He is a member of the Academy of Sciences of the US, the American Academy of Arts and Sciences, and the National Academy of Engineering, and a fellow of the Association for Computing Machinery.

Computational Insights and the Theory of Evolution

NOV 15, 2011

Jeannette Wing

PRESIDENT'S PROFESSOR OF COMPUTER SCIENCE
AND HEAD COMPUTER SCIENCE DEPARTMENT
CARNEGIE MELLON UNIVERSITY

Jeannette Wing's research is in the areas of trustworthy computing, specification and verification, concurrent and distributed systems, programming languages, and software engineering. Her current interests are on the foundations of trustworthy computing, with a focus on the science of security and privacy. Prof. Wing is a Fellow of the American Academy of Arts and Sciences, American Association for the Advancement of Science, the Association for Computing Machinery, and the Institute of Electrical and Electronic Engineers. From 2007-2010 she was the Assistant Director of the Computer and Information Science and Engineering Directorate at the National Science Foundation.

Computational Thinking

FEB 7, 2012

Andrew Ng

ASSOCIATE PROFESSOR
AND DIRECTOR OF THE STANFORD AI LAB
COMPUTER SCIENCE DEPARTMENT
STANFORD UNIVERSITY

Andrew Ng's research is in the area of machine learning and AI. His current work focuses on neuroscience-informed deep learning and unsupervised feature learning algorithms. Prof. Ng's research group has won numerous best paper awards at top conferences in machine learning and artificial intelligence. He is a recipient of the Alfred P. Sloan Fellowship, and the 2009 IJCAI Computers and Thought award, a prestigious award recognizing outstanding young scientists in artificial intelligence.

Machine Learning and AI via Large-Scale Brain Simulation

FEB 28, 2012

Claire Tomlin

CHARLES A. DESOER CHAIR AND PROFESSOR OF EECS
ELECTRICAL ENGINEERING DIVISION
UNIVERSITY OF CALIFORNIA AT BERKELEY

Claire Tomlin's research is in the area of hybrid systems and control, with applications to air traffic systems, robotics, and biology. She has been honoured with the Erlander Professorship of the Swedish Research Council in 2009, a MacArthur Fellowship in 2006, and the Eckman Award of the American Automatic Control Council in 2003. Prof. Tomlin previously held the positions of Assistant, Associate, and Full Professor at Stanford University from 1998-2007, joining Berkeley in 2005.

Verification and Control of Hybrid Systems using Reachability Analysis with Machine Learning

MAR 6, 2012

Computer Science • University of Toronto

There is no registration for this event. However, seating is limited, so arriving early is recommended. For any questions about the series, contact the department at dcsevents@cs.toronto.edu or 416.978.3619.

www.cs.toronto.edu

DCS Distinguished Lecture Series

Bahen Centre for Information Technology
40 St. George Street, Rm 1180
Toronto, ON
11:00 a.m.

2010-2011

dcsevents@cs.toronto.edu
416. 978. 3619
www.cs.toronto.edu

There is no registration for this event. Seating is limited, so arriving early is recommended.

Collaboration • Innovation • Discovery

Computer Science
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SEP 14 2010

Maja Matarić
Robots Among Us?: Socially Assistive Human-Robot Interaction

Professor, Computer Science and Neuroscience, **University of Southern California**

Dr. Matarić's lab focuses on endowing robots with the ability to help people through social rather than physical assistance. Her research into socially assistive robotics and assistive human-robot interaction is developing robot-assisted therapies for children with autism spectrum disorders, stroke, survivors, and those with forms of dementia.

SEP 21 2010

Richard Ladner
Designing and Building Technology to Empower People

Boeing Professor in Computer Science and Engineering, Adjunct Professor in the Department of Linguistics and Electrical Engineering, **University of Washington**

Following many years of research in theoretical computer science, Dr. Ladner works on accessibility technology research, especially technology for deaf, deaf-blind, hard-of-hearing, and blind people.


OCT 26 2010

Mor Harchol-Balter
Analytical Modeling of Data Centers to Optimize Performance and Power

Associate Professor and Associate Department Head, Computer Science Department, **Carnegie Mellon University**

Prof. Harchol-Balter's work focuses on designing new resource allocation policies (load balancing policies, power management policies, and scheduling policies) for server farms and distributed systems, spanning both queueing analysis and systems implementation.
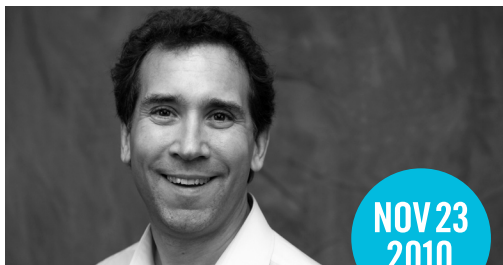
NOV 23 2010

Mark Guzdial
Meeting Everyone's Need for Computing

Professor, School of Interactive Computing, **Georgia Institute of Technology**

Dr. Guzdial's research focuses on learning sciences and technology, specifically, computing education research. He has published several books on the use of media as a context for learning computing. He was the original developer of the "Swiki" – the first wiki designed for educational use.


JAN 18 2011

Nicholas A. Christakis
Social Networks Offline

Professor, Department of Medicine, Health Care Policy, and Sociology, **Harvard University.** Master of Pforzheimer House, **Harvard College**

Dr. Christakis is an internist and social scientist who conducts research on social factors (such as small and large social networks) that affect health, health care, and longevity. He is the co-author of *Connected: The Surprising Power of Our Social Networks and How They Shape Our Lives.*
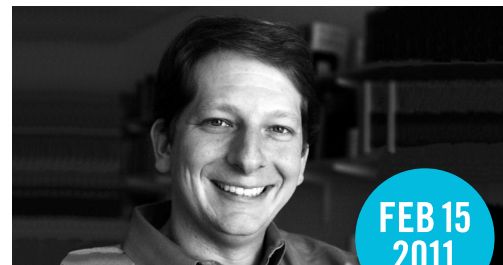
FEB 15 2011

Josh Tenenbaum
Computational Models of Common-Sense Theories: What People Know About the World, and How They Know It

Associate Professor of Cognitive Science and Computation, Department of Brain and Cognitive Sciences, **MIT.**

Dr. Tenenbaum studies learning and inference in humans and machines, with the twin goals of understanding human intelligence in computational terms and bringing computers closer to human capacities.

COMPUTER SCIENCE • UNIVERSITY OF TORONTO

Distinguished Lecture Series
2009-2010

Ed Lazowska

Bill & Melinda Gates Chair, Department of Computer Science and Engineering, University of Washington

Lazowska focuses on the design, implementation, and analysis of high performance computing and communication systems. He is a member of the Microsoft Research Technical Advisory Board, and serves as a board member for a number of high-tech and venture companies. He co-chaired the President's Information Technology Advisory Committee from 2003-05, and chairs the Computing Community Consortium, an effort created to engage the computing research community in envisioning more audacious research challenges. He is a Member of the National Academy of Engineering and a Fellow of the American Academy of Arts & Sciences, ACM, IEEE, and AAAS.

September 22, 2009

Linda Petzold

Professor, Departments of Computer Science and Mechanical Engineering, University of California at Santa Barbara

Petzold focuses on the development of computational methods for multiscale discrete stochastic simulation of biochemical kinetics, as well as the formulation and analysis of mathematical models for biochemical systems including circadian rhythm, unfolded protein response, diabetes type 2, polarization in yeast mating and coagulopathy. She is the recipient of numerous awards including the Wilkinson Prize for Numerical Software, the Dahlquist Prize, and the Sonia Kovalevski Prize. She is a Fellow of SIAM, ASME and AAAS, and is a member of the U.S. National Academy of Engineering.

October 20, 2009

Edmund M. Clarke

Professor, School of Computer Science and Department of Electrical and Computer Engineering, Carnegie Mellon University

Clarke's interests include software and hardware verification and automatic theorem proving. His research group pioneered the use of Model Checking for hardware verification, developed Symbolic Model Checking using BDDs, and developed the first parallel resolution theorem prover (Parthenon) and the first theorem prover to be based on a symbolic computation system (Analytica). Among other awards, Clarke was a recipient of the 2007 ACM Turing Award (with Allen Emerson and Joseph Sifakis) for his role in developing Model Checking into a highly effective verification technology, widely adopted in the hardware and software industries.

November 10, 2009

Fran Allen

IBM Fellow Emerita, IBM T. J. Watson Research Center

Allen's work focuses on compilers and languages that together enable both application performance and user productivity on high performance computers. The resulting advances have led to numerous awards for Allen including ACM's 2006 Turing Award "For pioneering contributions to the theory and practice of optimizing compiler techniques that laid the foundation for modern optimizing compilers and automatic parallel execution." She is a member of the American Philosophical Society, the National Academy of Engineering, a Fellow of the American Academy of Arts and Sciences, ACM, IEEE and the Computer History Museum, and the recipient of six honorary doctorates.

December 1, 2009

Joe Marks

Vice President, Disney Research

Marks' areas of interest include computer graphics, human-computer interaction, and artificial intelligence. He has worked previously at Bolt Beranek and Newman and at Digital's Cambridge Research Laboratory. Prior to joining The Walt Disney Company he was the Research Director at Mitsubishi Electric Research Labs in Cambridge, MA, from 2000-2006. In addition to numerous other service activities, he has served as Chair of ACM SIGART, SIGGRAPH 2007 Conference Chair, and he is currently a member of the DARPA ISAT Study Group.

February 9, 2010

Maja Matarić

Professor, Computer Science and Neuroscience, University of Southern California, Founding director of the USC Center for Robotics and Embedded Systems, Co-director of the USC Robotics Research Lab

Matarić's lab focuses on endowing robots with the ability to help people through social rather than physical assistance. Her research into socially assistive robotics and assistive human-robot interaction is developing robot-assisted therapies for children with autism spectrum disorders, stroke survivors, and those with forms of dementia. Among other honours, Matarić is a Fellow of the AAAS and recipient of the Okawa Foundation Award, NSF Career Award, the MIT TR100 Innovation Award, and the IEEE Robotics and Automation Society Early Career Award.

March 30, 2010

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Computer Science
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DEPARTMENT OF COMPUTER SCIENCE • UNIVERSITY OF TORONTO

Distinguished Lecture Series

2008-2009

September 16, 2008

Eric Brewer
Professor, Computer Science Division
University of California at Berkeley

Dr. Brewer focuses on all aspects of Internet-based systems, including technology, strategy and government. He has led projects on scalable servers, search engines, network infrastructure, sensor networks and security. His current focus is high technology for developing regions.

In 2000, working with President Clinton, Dr. Brewer helped to create USA.gov, the official portal of the United States Federal government. Among other recent accolades, he was named a "Global Leader for Tomorrow" by the World Economic Forum and elected to the U.S. National Academy of Engineering.

October 28, 2008

Daphne Koller
Professor, Department of Computer Science, Stanford University

Koller's research focuses on developing and using machine learning and probabilistic methods to model and analyze complex domains, such as biological systems or the physical world. She is the recipient of numerous awards, including the ONR Young Investigator Award, the Presidential Early Career Award for Scientists and Engineers, the IJCAI Computers and Thought Award, the Cox Medal for Fostering Excellence in Undergraduate Research, the MacArthur Fellowship and the ACM/Infosys Award.

November 4, 2008

Prabhakar Raghavan
Head of Yahoo! Research

Dr. Raghavan is head of the advanced research organization for Yahoo! Incorporated. His research interests include text and web mining, and algorithm design.

He is a Consulting Professor of Computer Science at Stanford University and Editor-in-Chief of the Journal of the ACM. Raghavan received his PhD from Berkeley and is a Fellow of the ACM and of the IEEE. Prior to joining Yahoo, he was Chief Technology Officer at Verity; before that he held a number of technical and managerial positions at IBM Research.

November 18, 2008

Batya Friedman
Professor, Information School; Adjunct Professor, Department of Computer Science and Engineering; Director, Value Sensitive Design Research Lab, University of Washington

Friedman pioneered Value Sensitive Design (VSD), an approach to account for human values in the design of information systems. First developed in human-computer interaction, VSD has since been used in information management, human-robotic interaction and urban planning. Friedman is currently working on multi-lifespan information system design and other new ideas for future information systems.

December 2, 2008

Alan Kay
President, Viewpoints Research Institute

Kay is one of the earliest pioneers of object-oriented programming, personal computing and graphical user interfaces. At Viewpoints Research Institute, he and his colleagues continue to explore advanced systems and programming design; they are also deeply involved in activities such as the "One Laptop Per Child" initiative.

Kay's numerous contributions been recognized by prestigious awards such as the Charles Stark Draper Prize of the National Academy of Engineering, the Turing Award of the Association for Computing Machinery, and the Kyoto Prize from the Inamori Foundation.

December 9, 2008

Dan Jurafsky
Associate Professor, Departments of Linguistics and Computer Science, Stanford University

Jurafsky works at the nexus of language and computation, focusing on statistical models of human and machine language processing. Recent topics include the induction and use of computational models of meaning, the automatic recognition and synthesis of speech, and the comprehension and production of dialogue. He is the recipient of the MacArthur Fellowship and an NSF CAREER award. His most recent book is the second edition of his widely-used textbook with Jim Martin, Speech and Language Processing.

January 27, 2009

Shree K. Nayar
T. C. Chang Professor, Computer Science Department, Columbia University

Nayar co-directs the Columbia Vision and Graphics Center, and heads the Columbia Computer Vision Laboratory (CAVE), which is dedicated to the development of advanced computer vision systems. His research is focused on three areas: the creation of novel cameras, the design of physics-based models for vision, and the development of algorithms for scene understanding. His work is motivated by applications in the fields of digital imaging, computer graphics and robotics.

He has received awards such as the David Marr Prize and the National Young Investigator Award, and he was recently elected to the National Academy of Engineering.

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