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Born: June 27, 1953, South Africa
Married, two children
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Present Position

- 2013– John A. Overdeck Professor of Mathematical Sciences, Stanford University.
2006–2009 Chair, Department of Statistics, Stanford University.
2005–2006 Associate Chair, Department of Statistics, Stanford University.
1999– Professor, Statistics and Biostatistics Departments, Stanford University. Founder and co-director of Statistics department industrial affiliates program.
1994–1998 Associate Professor (tenured), Statistics and Biostatistics Departments, Stanford University.

Research interests include nonparametric regression models, computer intensive data analysis techniques, statistical computing and graphics, and statistical consulting. Currently working on adaptive modeling and prediction procedures, signal and image modeling, and problems in bioinformatics with many more variables than observations.

Education

- 1984 **Stanford University**, Stanford, California – Ph.D, Department of Statistics (Werner Stuetzle, advisor)
1979 **University of Cape Town**, Cape Town, South Africa – First Class Masters Degree in Statistics (June Juritz, advisor).
1976 **Rhodes University**, Grahamstown, South Africa – Bachelor of Science Honors Degree in Statistics.
1975 **Rhodes University**, Grahamstown, South Africa – Bachelor of Science Degree (cum laude) in Statistics, Computer Science and Mathematics.

Awards and Honors

- 2018 William Gosset lecturer, Royal Irish Academy, Dublin.
2018 Elected to United States National Academy of Sciences.
2018 Honorary Doctorate, Leuphana University of Lüneburg, Germany.
2016 Wasserstrom distinguished lecturer, Northwestern University, Illinois.
2015 Recipient of 2015 Rhodes University distinguished alumni award.
2015 Recipient of Technometrics *Ziegel* award (dated 2014) for “An Introduction to Statistical Learning”
2014 The Emmanuel and Carol Parzen prize for Statistical Innovation, Texas A&M University.
2013 Inaugural John A. Overdeck Professor, Stanford University.

- 2013 Bernard G. Greenberg distinguished lecturer at Department of Biostatistics, University of North Carolina.
- 2011 Elected fellow of South African Statistical Society
- 2009–2010 Mellon Mentor, University of Cape Town
- 2009 Buehler-Martin lecturer, University of Minnesota.
- 2003 Official visitor (with Sir David Cox) at 50th anniversary of South African Statistical Association.
- 1998 Elected fellow of the American Statistical Association.
- 1997 IMS special invited speaker, IMS Pacific regional meeting, Taipei.
- 1996 1996 Myrto Lefkopolou award, Harvard Biostatistics Department
- 1996 1996 Craig award, University of Iowa.
- 1996 Elected fellow of the Institute of Mathematical Statistics.
- 1994 Elected member of International Statistics Institute.
- 1982 Harry Crossley Bursary, University of Cape Town. Awarded to assist in overseas doctoral research.
- 1980 Sir Robert Kotze Bursary, University of Cape Town. Awarded to assist in overseas doctoral research.
- 1979 Elected Fellow of Royal Statistical Society.
- 1979 Queen Victoria Scholarship, University of Cape Town. Awarded on the basis of Masters degree thesis for overseas doctoral research.
- 1978 National Scholarship, Rhodes University. Awarded on the basis of honors degree results for overseas doctoral research.
- 1977 University Research Scholarship, Rhodes University, Grahamstown. Awarded on basis of honors degree results for post-graduate research at Rhodes University.
- 1975 University Foundation Scholarship, Rhodes University. Awarded to the “Most Outstanding First Degree Candidate” during the period 1973 -1975.
- 1973 University Scholarship, Rhodes University. Awarded to the top first year student in the University in 1973.

Professional Duties and Committees

- 2013–2017 Judge on panel of Fundacion BBVA in Madrid to select the annual “Frontiers of Knowledge” awards.
- 2014 Evaluation of Statistics Department, Columbia University, NY (with Jon Wellner).
- 2010–2011 Served on NAS “Massive Data Analysis” panel (Michael Jordan chair)
- 1994–2001 Associate Editor, *Annals of Statistics*
- 1995– Associate Editor, J. Data Mining and Knowledge Discovery.
- 1994 Chair, Statistical Computing Section, ASA
- 1992 Program Chair, Statistical Computing Section, ASA
- 1989–1991 Associate Editor, *Technometrics*
- 1989 Secretary-Treasurer, Statistical Computing Section, ASA

Personal Research Grants

- 7/19–6/22 NSF IIS 1837931 “BigData: Computationally Efficient Algorithms for Large-Scale Crossed Random Effects Models” (Co PI with Art Owen)
- 7/15–6/19 NIH R01 EB001988 Continuation of “New Statistical Methods for Medical Signals and Imaging”.
- 8/14–7/19 NSF DMS-1407548 Hastie “Flexible Statistical Modeling”.

7/11–6/15	NIH R01 EB001988E Hastie/Johnstone/Tibshirani. Continuation of “New Statistical Methods for Medical Signals and Imaging”.
8/10–7/14	NSF DMS-1007719 Hastie “Flexible Statistical Modeling”.
7/08–6/12	NIH RO1-EB001988-12 Hastie/Johnstone/Tibshirani. Continuation of “New Statistical Methods for Medical Signals and Imaging”.
8/05–7/09	NSF DMS-0505676 Hastie “Flexible Statistical Modeling”.
7/03–6/07	NIH RO1-EB0011988-08 Hastie/Johnstone/Tibshirani. Continuation of “New Statistical Methods for Medical Signals and Imaging”.
7/02–7/05	NSF DMS 0204612 Hastie “Flexible Statistical Modeling”.
9/99–6/03	NIH-2RO1-CA72028 Hastie/Johnstone/Tibshirani Continuation of “New Statistical Methods for Medical Signals and Imaging”.
7/98–6/01	NSF DMS-9803645 Hastie “Flexible Statistical Modeling”.
9/96–8/99	NIH RO1-CA-72028-01 Hastie/Johnstone “New Statistical Methods for Medical Signals and Imaging”.
7/95–6/98	NSF DMS-9504495 Hastie “Flexible Regression and Classification”.

Ph.D. Student Supervision

Neil Crellin	Graduated 1996. Thesis “Visualization and Regression of Image Sequence Data”. Google, Mountain View.
Y. Dan Rubenstein	Graduated 1998. Thesis “Discriminative vs Informative Learning”. Founder and CTO of Reflectivity, a Silicon Valley micro-display manufacturer. Product Management Director, Google, Mountain View.
Gareth James	Graduated 1998. Thesis “Majority Vote Classifiers: Theory and Applications”. Associate Professor in Statistics, Marshall School of Business, University of Southern California.
Dirk Ormoneit	Postdoctoral Student 1999-2000. Head of research team, BlueCrest Financial, London.
Eva Cantoni	Postdoctoral Student 1999-2000. Currently at Econometrics Department, University of Geneva.
Mu Zhu	Graduated 2001. Thesis “Feature Extraction and Dimension Reduction with applications to Classification and the Analysis of Co-Occurrence Data”. Professor, Department of Statistics and Actuarial Science, University of Waterloo, Canada.
Ji Zhu	Graduated 2003. Thesis “Flexible Statistical Modelling” Professor, Statistics Department, University of Michigan.
Saharon Rosset	Graduated 2003 (co-advising with Jerome Friedman). Thesis title: “Boosting and other Methods for following Regularization Optimized Coefficient Paths”. Associate Professor, Statistics department, University of Tel Aviv, Israel.
Hui Zou	Graduated 2005, Thesis title: “Elasticnet Regularization and Beyond”. Professor, Statistics, University of Minnesota.
Mee Young Park	Graduated 2006, Thesis title “Generalized Linear Models with Regularization”. Quantitative Analyst, Google Inc, Mountain View.
Gillian Ward	Graduated 2007. Thesis title “Problems in Ecological Modeling: Presence-only Data and Boosted Mars”. Analyst at Youtube.
Ping Li	Graduated 2007. Thesis title “Stable Random Projections and Conditional Random Sampling, Two Sampling Techniques for Modern Massive Datasets”. Associate Professor, Statistics Department, Rutgers University.
Donal McMahon	Graduated 2009. Thesis title “Research Synthesis for Multiway Tables of Varying Shapes and Size”. Analyst at Google.
Rahul Mazumder	Graduated June 2012. Thesis title “Topics in Sparse Multivariate Statistics”. Assistant Professor, OR and Statistics, MIT

Michael Lim Graduated August 2013. Thesis title “The group lasso: two novel applications”. Data Scientist at Jump Trading, Chicago.

Will Fithian Graduated June 2015. Thesis title “Topics in Adaptive Inference”. Assistant Professor, Statistics department, UC Berkeley.

Jason Lee Graduated June 2015. Thesis title “Selective Inference and Learning Mixed Graphical Models”. Assistant Professor, USC.

Hristo Paskov (co-advised with John Mitchell, CS) Graduated 2016. Blackrock AI lab, Palo Alto.

Qingyuan Zhao Graduated 2016. PostDoc, U. Penn (Wharton).

Charles Zheng Graduated June 2017. Currently with NIH.

Ya Le Graduated 2018. Researcher, Google Brain.

Rakesh Achanta Current student

Junyang Qian Current student

Elena Tuzhilina Current Student

Work and Experience

1999 - Founder and Director, Stanford Statistic Department Industrial Affiliates program.

3/86–8/94 Member of Technical Staff, Statistics and Data Analysis Research Group, AT&T Bell Laboratories, 600 Mountain Ave, Murray Hill, New Jersey 07974.

7/92 Professor, Statistics Department, University of Cape Town — sabbatical 5-month appointment.

4/92 Member of MSRI, Berkeley. Arranged a 3-day workshop on “Neural Networks and Nonparametric Regression,” with 20 invited participants.

1/85–1/86 Research biostatistician, South African Medical Research Council, Institute for Biostatistics.

6/81–12/84 Graduate student, Stanford University, Stanford California.

Founded the department’s Statistical Consulting Service, together with Rob Tibshirani.

Member, Computations Research Group of Stanford Linear Accelerator Center. Research in statistical (motion) graphics and non-parametric regression methods. Group headed by Professor Jerome Friedman.

Statistical consulting—projects include performance study for Syva corporation with Professor Bradley Efron, FDA study for Coherent Inc. with Professor Lincoln Moses.

1/84–4/84 Visiting researcher/student, IBM Research, Zurich. On leave of absence from Stanford. Worked on computer vision and computer typesetting (T_EX) projects, and Ph.D. dissertation.

1/77-9/80 Research officer and consultant, Institute for Biostatistics, Medical Research Council, Cape Town, South Africa. Consulting with other MRC bodies in SA and University of Cape Town Medical School.

9/79–11/79 Biomathematics Department, Oxford University, Oxford, U.K. Research, and consulting work with Professor Peter Armitage for Booths Pharmaceutical company on logistic regression.

7/79–9/79 Johnson Space Center, Clear Lake City, Texas. Worked for two months in the cellular analytical lab of Dr. Steve Kimzey, on an automated cytology project.

2/79-7/79 London School of Hygiene and Tropical Medicine. Worked with Professor Michael Healy as consultant and did research on classification procedures. Projects included St. Lucia schistosomiasis study (Rockefeller Foundation)

and psycho-surgery validation study with the Neuro-surgical center of the Brooks General Hospital.

Industry: Advisory Boards and Consulting Retainers

5/2018- Senior Advisor, Blackrock
 5/2017- Smule SAB
 6/2017- Cardinal Analytx SAB
 1/2017-12-2017 Huawei Consultant
 10/2016 - Novartis Pharmaceuticals statistical consultant
 3/2016- Nightingale Analytics SAB
 6/2014 - 2016 Sumup Inc consultant
 12/2012- H₂O.ai SAB
 1/2006- Quantcast Inc SAB
 6/2005- Celera Diagnostics SAB
 6/2007-12/2017 Esurance SAB
 10/2012-5/2014 Morgan Stanley
 1/2011-12/2017 Opera Solutions SAB
 4/2006-11/2013 Aviiir SAB
 12/2006-12/2015 Natera (formerly Gene Security Network) SAB
 10/2010-12/2012 Pathworks Diagnostics SAB
 2/2002-2/2010 Bioseek SAB
 2/2008-2/2009 Facebook
 9/2001-8/2005 Enkata SAB
 9/2003-9/2006 Equibits SAB
 2/2000-8/2002 Peakstone SAB
 12/2005-4/2007 Rapt Inc SAB
 5/2002-7/2006 Sports Potential Inc SAB
 5/2000-10/2003 Xmine Inc SAB
 8/1999-1/2001 Panoptikon Inc SAB

Special Invited Talks and Workshops

6/2018 Inaugural Public Lecture, Jean Golding Institute, University of Bristol.
 7/2017 Inaugural speaker, “Data Science, Statistics and Visualization” conference, Lisbon, Portugal.
 7/2017 IASC presidential invited speaker, ISI Marakech, Morocco.
 5/2017 Tinbergen Institute Econometrics Lectures, Erasmus University, Rotterdam.
 11/2016 Special conference visitor, South African Statistical Association annual conference.
 7/2016 Keynote speaker, Fourth Joint Biostatistics Symposium, Shanghai.
 5/2016 Keynote speaker and special invited guest, Israeli Statistical Society, Tel Aviv.
 7/2015 Keynote speaker in special session of International Federation of Classification Societies in Bologna to celebrate 25th anniversary of publication of “Generalized Additive Models”.
 3/2015 Keynote speaker at 70th anniversary of Dutch statistical society, Itrecht, Holland.
 9/2014 Opening Keynote Speaker, Inauguration of University of Leiden Center of Data Science, Holland.
 5/2014 Invited speaker, Abel Symposium for high-dimensional data, Lofoten Islands, Norway.

- 9/2013 PIMS 2013 “Year of Statistics” public address, UBC, Vancouver.
- 7/2013 Keynote speaker, Ecostats2013, Sydney, Australia.
- 5/2013 Keynote speaker, Conference on Applied Statistics Ireland, Dublin 2013
- 5/2013 Bernard G. Greenberg distinguished lecturer, Department of Biostatistics, University of North Carolina.
- 3/2013 Annual Invited Lecturer in Biostatistics and Bioinformatics, University of California at San Francisco.
- 8/2012 Keynote speaker, COMPSTAT 2012, Cyprus.
- 5/2012 Keynote speaker, 43rd Interface meeting, Rice University, Houston, Texas
- 10/2011 Keynote speaker, Chilean Statistical Society annual conference, Pucon, Chile.
- 8/2011 Keynote speaker, New Zealand Annual Statistics conference, Auckland.
- 4/2011 Delivered invited one day course on “Statistical Learning” co-organized by Australian National University and CSIRO
- 8/2009 Presidents invited speaker, ISI meeting, Durban, South Africa.
- 7/09 Keynote speaker, user! 2009 conference, Rennes, France.
- 1/09 3eme Cycle de Statistique et Probabilites Appliquees, Les Diablerets, Switzerland — invited lecturer.
- 12/08 Keynote speaker, International Association of Statistical Computing, Yokohama, Japan.
- 12/08 Inaugural Pao-Lu Hsu lecturer at Peking University
- 8/08 Keynote speaker, KDD conference, Las Vegas.
- 8/08 Invited speaker, Joint statistical meetings, Denver, Colorado.
- 5/08 Three day invited data-mining workshop, BBVA foundation, Madrid.
- 8/07 Invited Speaker, Statistics in Technology and Science. Satellite meeting of ISI, Porto, Portugal.
- 3/07 Keynote Speaker, AI& Statistics, Puerto Rico.
- 9/06 Keynote Speaker, RSS 2006, Belfast, Northern Ireland.
- 6/06 Keynote Speaker, User-R conference, Vienna.
- 6/06 Keynote Speaker, 50th anniversary of the School of Economics, Erasmus University, Rotterdam.
- 10/05 Keynote Speaker, 5th Australian Microarray Conference, Barossa Valley.
- 5/05 Keynote Speaker, 11th ASMDA (Applied Stochastic Models and Data Analysis) conference, Brest, France.
- 2/05 Conference Keynote Speaker, First South African Data Mining Conference, Stellenbosch, South Africa.
- 11/04 Keynote Speaker, SAS datamining conference, Las Vegas.
- 8/04 Special Guest, Ecology conference, Riederalp.
- 11/03 Official conference guest (with Sir David Cox), 50th anniversary of the South African Statistical Association.
- 9/03 Plenary speaker, Italian classification society meeting, U. Bologna.
- 8/03 Invited speaker, ASA 2003, San Francisco.
- 1/03 Invited speaker, SPIE conference of “Document Retrieval and Recognition”, Santa Clara, California.
- 8/02 Keynote speaker, “Compstat 2002”, Berlin, Germany.
- 8/02 Invited Speaker, ASA 2002, New York.
- 7/02 Invited speaker at “Current Trends and Advances in Nonparametric Statistics”, Hersonissos, Crete.
- 7/02 Invited speaker at “17th International Workshop on Statistical Modeling” in Chania, Crete.
- 6/02 Plenary speaker at “Multiple Classification Systems”, Sardinia.
- 5/02 Plenary speaker, “Spring Research Conference”, Michigan.

- 12/01 Invited speaker at “New trends in optimization and computational algorithms”, Kyoto, Japan
- 10/01 Keynote speaker at Splus user conference, Philadelphia.
- 7/01 Special invited speaker at “GLM/GAM in Ecology” conference at Riederalp, Switzerland.
- 4/00 Invited speaker at Snobird conference, Utah; invited to speak on DNA expression arrays.
- 7/99 Special invited visitor of Norwegian Statistical Society, to spend 3 weeks in Oslo collaborating with young Norwegian investigators [grant covers expenses for myself and family for entire stay]
- 3/99 Invited speaker, Spanish Biometrics Society meeting, Mallorca, Spain.
- 1/99 Tutorial lecturer, American Association for Artificial Intelligence biennial meeting, Fort Lauderdale, Fl. “Boosting”
- 12/98 Invited speaker, International Biometrics Society meeting, Cape Town, South Africa
- 8/98 Plenary Speaker, Sinape. Annual Brazilian Statistical conference, Caxambu.
- 7/98 Keynote speaker, Australian Statistical Society Meeting, Gold Coast.
- 8/97 Special invited IMS keynote address “Modern Advances in Classification”, Taipei, Taiwan.
- 12/96 Invited tutorial “From Statistics to Neural Networks”, annual NIPS meeting, Denver, Colorado.
- 11/96 Invited speaker at memorial conference for Stefano Franscini, Acona, Switzerland.
- 11/96 Myrto Lefkopolou lecture and award, Harvard University.
- 7/96 Invited speaker at “International Modeling Conference”, Orvieto, Italy.
- 6/96 Short course on “Modern Regression and Classification” at Applied Statistics week, University Pompeu Fabra, Barcelona.
- 4/96 Short course on “Modern Regression and Classification”, ENAR, Richmond.
- 4/96 Craig lecture and award, Iowa State University.
- 3/96 3eme Cycle de Statistique et Probabilites Appliquees, Villars, Switzerland — invited lecturer.
- 4/95 Invited speaker at Neural Network and Statistics workshop at Edinburgh, RSS special session at Edinburgh, and to visit Bristol and Bath in UK.
- 1/95 Invited short course on “Nonparametric regression and Classification”, AI & Statistics workshop, Fort Lauderdale.
- 12/94 Invited to deliver paper at Neural Information Processing Conference, Denver.
- 6/94 Invited paper at ”Statistics in Industry” conference at University of Tokyo, Japan.
- 9/93 Keynote speaker, STATCOMP 93, Wollongong, Australia.
- 6/93 Invited speaker, NATO ASI meeting on Neural Networks and Statistics, Les Arcs, France.
- 3/92 “Statistical Models in S,” Interface meeting, College Station, Texas.
- 9/91 Keynote speaker at International Genstat meeting, Papendal, Holland.
- 6/91 Keynote speaker at US Classification Society Meeting, New Brunswick, NJ.
- 6/91 “Modelling Human Signatures,” Total Least Squares Conference, Leuven, Belgium.
- 3/91 “Generalized Additive Models in S,” International Smoothing Workshop, Heidelberg, Germany.
- 9/90 “Statistical Models in S,” COMPSTAT, Dubrovnik, Yugoslavia.
- 8/90 Keynote speaker at “Generalized Linear Models” workshop at State University of New York, Stonybrook.

- 8/90 One-day short course at ASA meeting (Anaheim) on “Generalized Additive Models.” Talk: “Confidence Sets for Nonparametric Regression” at the same meeting.
- 6-7/90 Visiting Professor, Summer Quarter, Stanford University. Taught 7-week course on “Generalized Additive Models.”
- 2/90 “Statistical Models in S,” First International S Conference, Wellington, New Zealand.
- 8/89 General Methodology lecture, ASA, Washington.
- 6/89 Two-day speaker, “Diagnostics Quarter,” University of Minnesota.
- 4/89 Short course on “Generalized Additive Models,” Canadian Statistical Meetings, Ottawa.
- 2-3/89 Three-day course on “Generalized Additive Models,” Australian National University, Canberra.
- 8/87 “Correspondence Analysis,” 4-hour tutorial (with Michael Greenacre), ASA meeting, San Francisco.
- 7/87 “A new algorithm for matched case-control studies with applications to additive models,” 2nd International Data Analysis Meeting, Perugia, Italy.
- 3/87 “Generalized additive models: the additive Cox Model,” Biometrics Meetings, Dallas, TX.
- 2/87 “Principal Profiles,” Interface meeting, Philadelphia, PA.
- 8/86 “Generalized additive models: a GAIM analyst’s toolbox,” ASA annual meetings, Chicago, Illinois.
- 3/86 “Generalized additive models; some applications,” Biometric Society meetings, Atlanta, Georgia.
- 9/85 “Generalized additive models: introduction and applications.” Second international conference on generalized linear models, Lancaster, England.
- 8/85 “Principal Curves and Surfaces,” ASA annual meetings, Las Vegas, Arizona.
- 6/85 “Non-Parametric Logistic Regression,” South African Statistical Association meeting, University of the Western Cape, Cape Town.”
- 6/84 “Principal Curves and Surfaces”— New Methods in Multivariate Statistics, AMS summer conference, Brunswick, Maine (organized by P. Huber, P. Diaconis and P. Bickel).
- 4/84 “Non-parametric Logistic Regression,” Department of Mathematics, Imperial College, London, England.

Teaching

- 10/2017 Five lectures on “Statistical Learning” taught to European physicists, organized by University of Padua.
- 2014- Developed a 14 hour MOOC called “Statistical Learning” with Rob Tibshirani. So far has had 180,000 registrations (with about 12% completing the entire course).
- 2001-2017 “Statistical Learning and Data Mining”. Two day public short course taught twice a year (with R. Tibshirani). Currently on version IV.
- 1996-2000 “Modern Regression and Classification”. Two day public short course taught twice a year (with R. Tibshirani)
- 9/94 - Graduate and undergraduate teaching at Stanford University.
- 8/92 One-semester honors course on “Computer Intensive Methods” at University of Cape Town.
- 8/80 One-day short course at ASA meeting, Anaheim, on “Generalized Additive Models.”
- 6-7/90 Visiting Professor, Summer Quarter, Stanford University. Taught 7-week course on “Generalized Additive Models.”

- 4/89 Short course on “Generalized Additive Models,” Canadian Statistical Meetings, Ottawa.
- 2-3/89 Invited 3-day course on “Generalized Additive Models,” Australian National University, Canberra.
- 2/80–6/80 One-semester lecture course on Survival Analysis in the Honors program at the University of Cape Town.
- 1/76–12/76 Rhodes University, Grahamstown, South Africa. Junior Lecturer in Department of Mathematical Statistics. Lectured the undergraduate one year course on Business Mathematics and Statistics.

Books

- [1] Trevor Hastie and R. Tibshirani. *Generalized Additive Models*. Chapman and Hall, 1990.
- [2] J. Chambers and Trevor Hastie. *Statistical Models in S*. Wadsworth/Brooks Cole, Pacific Grove, California, 1991.
- [3] T. Hastie, R. Tibshirani, and J. Friedman. *The Elements of Statistical Learning: Prediction, Inference and Data Mining*. Springer Verlag, New York, 2001.
- [4] T. Hastie, R. Tibshirani, and J. Friedman. *The Elements of Statistical Learning: Prediction, Inference and Data Mining*. Springer Verlag, New York, second edition, 2009.
- [5] Gareth James, Daniela Witten, Trevor Hastie, and Rob Tibshirani. *An Introduction to Statistical Learning with Applications in R*. Springer Texts in Statistics. Springer, New York, 2013.
- [6] Trevor Hastie, Robert Tibshirani, and Martin Wainwright. *Statistical Learning with Sparsity: the Lasso and Generalizations*. Chapman and Hall, CRC Press, 2015.
- [7] Bradley Efron and Trevor Hastie. *Computer Age Statistical Inference; Algorithms, Evidence and Data Science*. Cambridge University Press, July 2016.

Refereed Journal Articles

- [1] Trevor Hastie. A closer look at the deviance. *American Statistician*, 41, 1985.
- [2] Trevor Hastie and R. Tibshirani. Generalized additive models (with discussion). *Statistical Science*, 1, 1986.
- [3] Trevor Hastie and Robert Tibshirani. Non-parametric logistic and proportional odds regression. *Applied Statistics*, 36:260–276, 1987.
- [4] Trevor Hastie and Tibshirani. Local likelihood estimation. *Journal of the American Statistical Association*, 82, 1987.
- [5] Trevor Hastie and M. Greenacre. The geometric interpretation of correspondence analysis. *Journal of the American Statistical Association*, 82, 1987.
- [6] Trevor Hastie and R. Tibshirani. Generalized additive models; some applications. *Journal of the American Statistical Association*, 82, 1987.
- [7] Trevor Hastie, J. Botha, and C. Schnitzler. Regression with an ordered categorical response. *Statistics in Medicine*, 8, 1989.
- [8] Trevor Hastie and W. Stuetzle. Principal curves. *Journal of the American Statistical Association*, 84(406):502–516, 1989.
- [9] A. Buja, Trevor Hastie, and R. Tibshirani. Linear smoothers and additive models (with discussion). *Annals of Statistics*, 17:453–555, 1989.
- [10] Trevor Hastie and R. Tibshirani. A method for exploring the nature of covariate effects in the proportional hazards model. *Biometrics*, 46, 1990.
- [11] E. Kishon and Trevor Hastie. 3-d curve matching using splines. *J. Robotic Systems*, 8(6), 1991.
- [12] T. Hastie, J. Fan, and E. Kishon. A model for signature verification. U.S. Patent 5,111,512, 1992.
- [13] Trevor Hastie, W. Nelson, and W. Turin. Statistical methods for online signature verification. *International Journal of Pattern Recognition and Artificial Intelligence*, 1992.
- [14] Trevor Hastie, L. Clark, L. Psota-Kelty, D. Sinclair, and J. Rauchut. Sources of particle contamination in an ic manufacturing environment. *Aerosol Science and Technology*, 16:43–50, 1992.
- [15] Trevor Hastie, L. Sleeper, and R. Tibshirani. Flexible covariate effects in the Cox model. *Breast Cancer Research and Treatment*, 22:241–250, 1992. (special issue).
- [16] Trevor Hastie and Robert Tibshirani. Varying coefficients models (with discussion). *J. Royal Statist. Soc. (Series B)*, 55:757–796, 1993.
- [17] Trevor Hastie and C. Loader. Local regression: Automatic kernel carpentry (with discussion). *Statistical Science*, 8:120–143, 1993.
- [18] Trevor Hastie, R. Tibshirani, and A. Buja. Flexible discriminant analysis by optimal scoring. *Journal of the American Statistical Association*, 89:1255–1270, 1994.
- [19] T. Hastie and R. Tibshirani. Discriminant analysis by gaussian mixtures. *J. Royal Statist. Soc. (Series B)*, 58:155–176, 1996.

- [20] Trevor Hastie, A. Buja, and R. Tibshirani. Penalized discriminant analysis. *Annals of Statistics*, 23:73–102, 1995.
- [21] Charles B. Roosen and Trevor J. Hastie. Automatic smoothing spline projection pursuit. *Journal of Computational and Graphical Statistics*, 3:235–248, 1994.
- [22] T. Hastie and R. Tibshirani. Generalized additive models in medical research. *Statistics Methods in Medical Research*, 4:187–196, 1995.
- [23] T. Hastie and R. Tibshirani. Discriminant adaptive nearest neighbor classification. *IEEE Pattern Recognition and Machine Intelligence*, 18:607–616, 1996.
- [24] T. Hastie. Pseudosplines. *Journal of the Royal Statistical Society, Series B*, 58:379–396, 1995.
- [25] T. Hastie and R. Tibshirani. Generalized additive models. In S. Kotz and C. Reid, editors, *Encyclopaedia of the Statistical Sciences*, volume 4, pages 187–196. Elsevier, 1995.
- [26] T. Hastie. *Encyclopaedia of Biostatistics*, chapter Neural Networks. John Wiley, 1998.
- [27] T. Hastie, R. Tibshirani, and A. Buja. Flexible discriminant and mixture models. In J. Kay and M. Titterton, editors, *Statistics and Artificial Neural Networks*. Oxford University Press, 1998.
- [28] G. James and T. Hastie. Error coding and pacts. *Journal of Computational and Graphical Statistics*, 1998.
- [29] T. Hastie and R. Tibshirani. Classification by pairwise coupling. *Annals of Statistics*, 26(2), 1998.
- [30] T. Hastie and P. Simard. Metrics and models for handwritten character recognition. *Statistical Science*, 13(1):54–65, 1998.
- [31] T. Hastie and R. Tibshirani. Bayesian backfitting. *Statistical Science (with discussion)*, 15(3):193–223, 2000.
- [32] T. Hastie, D. Ikeda, and R. Tibshirani. On the detection of mammographic masses. *Journal of Computational and Graphical Statistics*, 8(3):531–543, 1999.
- [33] T. Wu, S. Schmidler, T. Hastie, and D. Brutlag. Regression analysis of multiple protein structures. *J. Computational Biology*, 5(3):585–95, 1998.
- [34] J. Friedman, T. Hastie, and R. Tibshirani. Additive logistic regression: a statistical view of boosting (with discussion). *Annals of Statistics*, 28:337–307, 2000.
- [35] G. James, T. Hastie, and C. Sugar. A principal component models for sparse functional data. *Biometrika*, 87:587–602, 2000.
- [36] Gareth James and Trevor Hastie. Functional linear discriminant analysis for irregularly sampled curves. *Journal of the Royal Statistical Society, Series B*, 63:533–550, 2001.
- [37] T. Hastie, R. Tibshirani, M. Eisen, A. Alizadeh, R. Levy, L. Staudt, D. Botstein, and P. Brown. "Gene shaving" as a method for identifying distinct sets of genes with similar expression patterns. *Genome Biology*, 1(2):1–21, 2000.
- [38] T. Hastie, R. Tibshirani, D. Botstein, and P. Brown. Supervised harvesting of expression trees. *Genome Biology*, 2(1):1–12, 2001.

- [39] R. Tibshirani, G. Walther, and T. Hastie. Estimating the number of clusters in a dataset via the gap statistic. *Journal of the Royal Statistical Society, B*, 63:411–423, 2001.
- [40] Robert Tibshirani, Trevor Hastie, Balasubramanian Narasimhan, Michael Eisen, Gavin Sherlock, Pat Brown, and David Botstein. Exploratory screening of genes and clusters from microarray experiments. *Statistica Sinica*, 12:47–59, 2002.
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