Allen Tannenbaum

List of Publications by Year in Descending Order

187 papers	5,834 citations	39 h-index	73 g-index
207 ext. papers	6,886 ext. citations	4 avg, IF	5.75 L-index

#	Paper	IF	Citations
187	Glymphatic Cerebrospinal Fluid and Solute Transport Quantified by MRI and PET Imaging. *Neuroscience*, **2021**, 474, 63-79	3.9	17
186	A novel kernel Wasserstein distance on Gaussian measures: An application of identifying dental artifacts in head and neck computed tomography. *Computers in Biology and Medicine*, **2020**, 120, 103731	7	6
185	Perivascular spaces in the brain: anatomy, physiology and pathology. *Nature Reviews Neurology*, **2020**, 16, 137-153	15	161
184	Fisher-Rao Regularized Transport Analysis of the Glymphatic System and Waste Drainage. *Lecture Notes in Computer Science*, **2020**, 12267, 573-582	0.9	2
183	The glymphatic system and its role in cerebral homeostasis. *Journal of Applied Physiology*, **2020**, 129, 1330-1340	3.7	11
182	Equi-affine differential invariants for invariant feature point detection. *European Journal of Applied Mathematics*, **2020**, 31, 277-296	1	0
181	Interpolation of matrices and matrix-valued densities: The unbalanced case. *European Journal of Applied Mathematics*, **2019**, 30, 458-480	1	7
180	Optimal mass transport kinetic modeling for head and neck DCE-MRI: Initial analysis. *Magnetic Resonance in Medicine*, **2019**, 82, 2314-2325	4.4	2
179	Machine Learning for Joint Classification and Segmentation. *Lecture Notes in Control and Information Sciences - Proceedings*, **2018**, 327-339	0.2	
178	Guiding Image Segmentation on the Fly: Interactive Segmentation From a Feedback Control Perspective. *IEEE Transactions on Automatic Control*, **2018**, 63, 3276-3289	5.9	2
177	Vector-Valued Optimal Mass Transport. *SIAM Journal on Applied Mathematics*, **2018**, 78, 1682-1696	1.8	13
176	An Efficient Algorithm for Matrix-Valued and Vector-Valued Optimal Mass Transport. *Journal of Scientific Computing*, **2018**, 77, 79-100	2.3	9
175	GlymphVIS: Visualizing Glymphatic Transport Pathways Using Regularized Optimal Transport. *Lecture Notes in Computer Science*, **2018**, 11070, 844-852	0.9	12
174	Wasserstein Geometry of Quantum States and Optimal Transport of Matrix-Valued Measures. *Lecture Notes in Control and Information Sciences - Proceedings*, **2018**, 139-150	0.2	7
173	Optimal transport for Gaussian mixture models. *IEEE Access*, **2018**, 7, 6269-6278	3.5	20
172	Matricial Wasserstein-1 Distance **2017**, 1, 14-19		6
171	Evaluation of nucleus segmentation in digital pathology images through large scale image synthesis. *Proceedings of SPIE*, **2017**, 10140,	1.7	4

170	Cerebrospinal and interstitial fluid transport via the glymphatic pathway modeled by optimal mass transport. *NeuroImage*, **2017**, 152, 530-537	7.9	42
169	Interactive Image Segmentation Framework Based On Control Theory. *Proceedings of SPIE*, **2015**, 9413,	1.7	1
168	Optimal-mass-transfer-based estimation of glymphatic transport in living brain. *Proceedings of SPIE*, **2015**, 9413,	1.7	14
167	A complete system for automatic extraction of left ventricular myocardium from CT images using shape segmentation and contour evolution. *IEEE Transactions on Image Processing*, **2014**, 23, 1340-51	8.7	8
166	Macroscopic analysis of crowd motion in video sequences **2014**,		2
165	Reconstruction and Feature Selection for Desorption Electrospray Ionization Mass Spectroscopy Imagery. *Proceedings of SPIE*, **2014**, 9036, 90360D	1.7	2
164	Interpolation of Longitudinal Shape and Image Data via Optimal Mass Transport. *Proceedings of SPIE*, **2014**, 9034, 90342X	1.7	1
163	Optical flow estimation for flame detection in videos. *IEEE Transactions on Image Processing*, **2013**, 22, 2786-97	8.7	70
162	Sparse texture active contour. *IEEE Transactions on Image Processing*, **2013**, 22, 3866-78	8.7	22
161	Automated skin segmentation in ultrasonic evaluation of skin toxicity in breast cancer radiotherapy. *Ultrasound in Medicine and Biology*, **2013**, 39, 2166-75	3.5	21
160	Particle Filters and Occlusion Handling for Rigid 2D-3D Pose Tracking. *Computer Vision and Image Understanding*, **2013**, 117, 922-933	4.3	13
159	Automatic segmentation of the left atrium from MR images via variational region growing with a moments-based shape prior. *IEEE Transactions on Image Processing*, **2013**, 22, 5111-22	8.7	28
158	Automatic delineation of the myocardial wall from CT images via shape segmentation and variational region growing. *IEEE Transactions on Biomedical Engineering*, **2013**, 60, 2887-95	5	18
157	Interactive medical image segmentation using PDE control of active contours. *IEEE Transactions on Medical Imaging*, **2013**, 32, 2127-39	11.7	29
156	Anomaly detection in videos: A dynamical systems approach **2013**,		3
155	Matrix-valued Monge-Kantorovich optimal mass transport **2013**,		1
154	Multiscale 3D shape representation and segmentation with applications to hippocampal/caudate extraction from brain MRI. *Medical Image Analysis*, **2012**, 16, 374-85	15.4	15
153	Nano filler dispersion in polymer composites for electronic packaging **2012**,		4

152	A 3D interactive multi-object segmentation tool using local robust statistics driven active contours. *Medical Image Analysis*, **2012**, 16, 1216-27	15.4	56
151	Automatic segmentation of the left atrium from MRI images using salient feature and contour evolution. *Annual International Conference of the IEEE Engineering in Medicine and Biology Society IEEE Engineering in Medicine and Biology Society Annual International Conference*, **2012**, 2012, 3211-4	0.9	3
150	Optimal Mass Transport for Problems in Control, Statistical Estimation, and Image Analysis **2012**, 311-324		1
149	Human Supervisory Control Framework for Interactive Medical Image Segmentation **2012**, 77-88		
148	Particle Filtering with Region-based Matching for Tracking of Partially Occluded and Scaled Targets. *SIAM Journal on Imaging Sciences*, **2011**, 4, 220-242	1.9	3
147	A nonrigid kernel-based framework for 2D-3D pose estimation and 2D image segmentation. *IEEE Transactions on Pattern Analysis and Machine Intelligence*, **2011**, 33, 1098-115	13.3	18
146	Nonparametric clustering for studying RNA conformations. *IEEE/ACM Transactions on Computational Biology and Bioinformatics*, **2011**, 8, 1604-19	3	2
145	Object tracking and target reacquisition based on 3-D range data for moving vehicles. *IEEE Transactions on Image Processing*, **2011**, 20, 2912-24	8.7	4
144	Interactive MRI Segmentation with Controlled Active Vision **2011**, 2293-2298	1.3	2
143	TEMPORAL REGISTRATION OF PARTIAL DATA USING PARTICLE FILTERING. *Proceedings International Conference on Image Processing*, **2011**, 2177-2180	1.6	1
142	A video analytics framework for amorphous and unstructured anomaly detection **2011**,		2
141	Simultaneous Multi-object Segmentation Using Local Robust Statistics and Contour Interaction. *Lecture Notes in Computer Science*, **2011**, 195-203	0.9	6
140	Sparse Blind Source Separation via l_1-Norm Optimization. *Lecture Notes in Control and Information Sciences*, **2010**, 321-330	0.5	
139	Signals and control aspects of optimal mass transport and the Boltzmann entropy **2010**,		11
138	Trajectory control of PbSe-gamma-Fe2O3 nanoplatforms under viscous flow and an external magnetic field. *Nanotechnology*, **2010**, 21, 175702	3.4	3
137	Deform PF-MT: particle filter with mode tracker for tracking nonaffine contour deformations. *IEEE Transactions on Image Processing*, **2010**, 19, 841-57	8.7	24
136	3D Automatic Segmentation of the Hippocampus Using Wavelets with Applications to Radiotherapy Planning. *Advances in Intelligent and Soft Computing*, **2010**, 17-31		
135	AN EFFICIENT NUMERICAL METHOD FOR THE SOLUTION OF THE L(2) OPTIMAL MASS TRANSFER PROBLEM. *SIAM Journal of Scientific Computing*, **2010**, 32, 197-211	2.6	38

134	A Geometric Approach to Joint 2D Region-Based Segmentation and 3D Pose Estimation Using a 3D Shape Prior. *SIAM Journal on Imaging Sciences*, **2010**, 3, 110-132	1.9	18
133	Point set registration via particle filtering and stochastic dynamics. *IEEE Transactions on Pattern Analysis and Machine Intelligence*, **2010**, 32, 1459-73	13.3	65
132	Texture mapping via optimal mass transport. *IEEE Transactions on Visualization and Computer Graphics*, **2010**, 16, 419-33	4	40
131	Tubular surface segmentation for extracting anatomical structures from medical imagery. *IEEE Transactions on Medical Imaging*, **2010**, 29, 1945-58	11.7	22
130	Affine Registration of label maps in Label Space **2010**, 2, 1-11		5
129	Non-rigid 2D-3D pose estimation and 2D image segmentation **2009**,		14
128	Vision-Based Range Regulation of a Leader-Follower Formation. *IEEE Transactions on Control Systems Technology*, **2009**, 17, 442-448	4.8	27
127	Anterior cruciate ligament reconstruction in the skeletally immature: an anatomical study utilizing 3-dimensional magnetic resonance imaging reconstructions. *Journal of Pediatric Orthopaedics*, **2009**, 29, 124-9	2.4	83
126	Localizing region-based active contours. *IEEE Transactions on Image Processing*, **2008**, 17, 2029-39	8.7	809
125	Finsler active contours. *IEEE Transactions on Pattern Analysis and Machine Intelligence*, **2008**, 30, 412-23	13.3	74
124	A framework for image segmentation using shape models and kernel space shape priors. *IEEE Transactions on Pattern Analysis and Machine Intelligence*, **2008**, 30, 1385-99	13.3	81
123	Geometric observers for dynamically evolving curves. *IEEE Transactions on Pattern Analysis and Machine Intelligence*, **2008**, 30, 1093-108	13.3	13
122	Localized Statistics for DW-MRI Fiber Bundle Segmentation. *Proceedings of the IEEE Computer Society Conference on Computer Vision and Pattern Recognition*, **2008**, 1-8	6	6
121	Fast approximate surface evolution in arbitrary dimension. *Proceedings of SPIE*, **2008**, 6914,	1.7	7
120	A new distribution metric for image segmentation **2008**,		8
119	TAC: Thresholding active contours **2008**,		1
118	On approximation of smooth functions from samples of partial derivatives with application to phase unwrapping. *Signal Processing*, **2008**, 88, 358-374	4.4	5
117	On the Computation of Optimal Transport Maps Using Gradient Flows and Multiresolution Analysis. *Lecture Notes in Control and Information Sciences*, **2008**, 65-78	0.5	0

#	Reference		
98	Affine invariant surface evolutions for 3D image segmentation **2006**,		1
97	Shape-Based Approach to Robust Image Segmentation using Kernel PCA. *Proceedings of the IEEE Computer Society Conference on Computer Vision and Pattern Recognition*, **2006**, 977-984	6	7
96	Curve Shortening and Interacting Particle Systems. *Modeling and Simulation in Science, Engineering and Technology*, **2006**, 303-311	0.8	0
95	Medial Axis Computation and Evolution. *Modeling and Simulation in Science, Engineering and Technology*, **2006**, 1-28	0.8	5
94	Shape-driven 3D segmentation using spherical wavelets. *Lecture Notes in Computer Science*, **2006**, 9, 66-74	0.9	10
93	A Shape-Based Approach to Robust Image Segmentation. *Lecture Notes in Computer Science*, **2006**, 173-183	0.9	12
92	Comparative Analysis of Kernel Methods for Statistical Shape Learning. *Lecture Notes in Computer Science*, **2006**, 96-107	0.9	6
91	Flattening maps for the visualization of multibranched vessels. *IEEE Transactions on Medical Imaging*, **2005**, 24, 191-8	11.7	37
90	Coronary vessel cores from 3D imagery: a topological approach **2005**,		4
89	Flux driven automatic centerline extraction. *Medical Image Analysis*, **2005**, 9, 209-21	15.4	139
88	Mass preserving registration for heart MR images. *Lecture Notes in Computer Science*, **2005**, 8, 147-54	0.9	1
87	Knowledge-based 3D segmentation and reconstruction of coronary arteries using CT images. *Annual International Conference of the IEEE Engineering in Medicine and Biology Society*, **2004**, 2004, 1664-6		14
86	Optimal Mass Transport for Registration and Warping. *International Journal of Computer Vision*, **2004**, 60, 225-240	10.6	210
85	A statistically based flow for image segmentation. *Medical Image Analysis*, **2004**, 8, 267-74	15.4	33
84	Area-Preserving Mappings for the Visualization of Medical Structures. *Lecture Notes in Computer Science*, **2003**, 277-284	0.9	9
83	Stochastic approximations to curve-shortening flows via particle systems. *Journal of Differential Equations*, **2003**, 195, 119-142	2.1	4
82	Minimizing Flows for the Monge--Kantorovich Problem. *SIAM Journal on Mathematical Analysis*, **2003**, 35, 61-97	1.7	99
81	Automated identification of RNA conformational motifs: theory and application to the HM LSU 23S rRNA. *Nucleic Acids Research*, **2003**, 31, 6249-57	20.1	46

80	Crystalline Stochastic Systems and Curvature Driven Flows. *The IMA Volumes in Mathematics and Its Applications*, **2003**, 41-61	0.5	
79	Segmentation of Diffusion Tensor Imagery **2003**, 239-247		2
78	Hamilton-Jacobi Skeletons. *International Journal of Computer Vision*, **2002**, 48, 215-231	10.6	193
77	4D Active Surfaces for Cardiac Analysis. *Lecture Notes in Computer Science*, **2002**, 667-673	0.9	2
76	Visual Tracking and Object Recognition. *IFAC Postprint Volumes IPPV / International Federation of Automatic Control*, **2001**, 34, 1539-1542		
75	On the eye tracking problem: a challenge for robust control. *International Journal of Robust and Nonlinear Control*, **2000**, 10, 875-888	3.6	2
74	Non-distorting Flattening for Virtual Colonoscopy. *Lecture Notes in Computer Science*, **2000**, 358-366	0.9	11
73	Noise-Resistant Affine Skeletons of Planar Curves. *Lecture Notes in Computer Science*, **2000**, 742-754	0.9	4
72	On Area Preserving Mappings of Minimal Distortion. *Kluwer International Series in Engineering and Computer Science*, **2000**, 275-286		7
71	Computation of the singular values of Toeplitz operators and the gap metric. *Systems and Control Letters*, **1999**, 36, 327-338	2.4	1
70	Affine Invariant Detection: Edge Maps, Anisotropic Diffusion, and Active Contours. *Acta Applicandae Mathematicae*, **1999**, 59, 45-77	1.1	22
69	Shapes, shocks and wiggles. *Image and Vision Computing*, **1999**, 17, 365-373	3.7	36
68	Conformal Geometry and Brain Flattening. *Lecture Notes in Computer Science*, **1999**, 271-278	0.9	18
67	Differential and Numerically Invariant Signature Curves Applied to Object Recognition. *International Journal of Computer Vision*, **1998**, 26, 107-135	10.6	130
66	On the affine heat equation for non-convex curves. *Journal of the American Mathematical Society*, **1998**, 11, 601-634	1.6	40
65	Visual tracking, active vision, and gradient flows **1998**, 183-194		2
64	Gradients, Curvature, and Visual Tracking **1998**, 375-390		
63	Invariant Geometric Evolutions of Surfaces and Volumetric Smoothing. *SIAM Journal on Applied Mathematics*, **1997**, 57, 176-194	1.8	41

62   On the Nonlinear Standard H Problem **1997**, 413-429

61   Differential Invariants and Curvature Flows in Active Vision. *European Consortium for Mathematics in Industry*, **1997**, 196-213

60   Skew Toeplitz Solution to The H^|^infin; Problem for Infinite-Dimensional Unstable Plants. *Transactions of the Society of Instrument and Control Engineers*, **1997**, 33, 1066-1071   0.1

59   The Structured Singular Value for Linear Input/Output Operators. *SIAM Journal on Control and Optimization*, **1996**, 34, 1392-1404   1.9   16

58   New Solution to the Two Block H Problem for Infinite-Dimensional Stable Plants. *IFAC Postprint Volumes IPPV / International Federation of Automatic Control*, **1996**, 29, 3051-3056

57   Affine Geometry, Curve Flows, and Invariant Numerical Approximations. *Advances in Mathematics*, **1996**, 124, 154-196   1.3   47

56   Conformal curvature flows: From phase transitions to active vision. *Archive for Rational Mechanics and Analysis*, **1996**, 134, 275-301   2.3   299

55   New Solution to The Two Block H^|^infin; Problem for Infinite-Dimensional Stable Plants. *Transactions of the Society of Instrument and Control Engineers*, **1996**, 32, 1416-1424   0.1   2

54   Affine invariant gradient flows. *Lecture Notes in Control and Information Sciences*, **1996**, 194-200   0.5

53   Nonlinearity in H control theory, causality in the commutant lifting theorem, and extension of intertwining operators. *Integral Equations and Operator Theory*, **1995**, 23, 89-100   0.5

52   Nonlinear H^∞ Optimization: A Causal Power Series Approach. *SIAM Journal on Control and Optimization*, **1995**, 33, 185-207   1.9   2

51   On the structured singular value for operators on Hilbert space **1995**, 11-23   2

50   The Equivalence among the Solutions of the H^|^infin; Optimal Sensitivity Computation Problem. *Transactions of the Society of Instrument and Control Engineers*, **1995**, 31, 1954-1961   0.1   1

49   On combined H H2 suboptimal interpolants. *Linear Algebra and Its Applications*, **1994**, 203-204, 443-469   0.9   3

48   Area and length preserving geometric invariant scale-spaces. *Lecture Notes in Computer Science*, **1994**, 449-458   0.9   3

47   Differential Invariant Signatures and Flows in Computer Vision: A Symmetry Group Approach. *Computational Imaging and Vision*, **1994**, 255-306   25

46   H^∞-Optimal Control and Related Minimax Design Problems (Tamer Basar and Pierre Bernhard). *SIAM Review*, **1993**, 35, 538-540   7.4   0

45   Frequency domain methods for the H Optimization of distributed systems **1993**, 242-278   3

44	Mixed-sensitivity optimization for a class of unstable infinite-dimensional systems. *Linear Algebra and Its Applications*, **1993**, 178, 43-83	0.9	20
43	Affine invariant scale-space. *International Journal of Computer Vision*, **1993**, 11, 25-44	10.6	229
42	. *Indiana University Mathematics Journal*, **1993**, 42, 985	0.6	44
41	Generalized Interpolation Theory and Its Application to Robust Control Design. *Control and Dynamic Systems*, **1993**, 163-217		
40	Abstract model and controller design for an unstable aircraft. *Journal of Guidance, Control, and Dynamics*, **1992**, 15, 498-508	2.1	28
39	On the evolution of curves via a function of curvature. I. The classical case. *Journal of Mathematical Analysis and Applications*, **1992**, 163, 438-458	1.1	110
38	On the optimal two block H compensators for distributed unstable plants **1992**,		2
37	A spectral commutant lifting theorem. *Transactions of the American Mathematical Society*, **1991**, 325, 741-763	1	31
36	A lifting technique for linear periodic systems with applications to sampled-data control. *Systems and Control Letters*, **1991**, 17, 79-88	2.4	252
35	On the structure of suboptimal H controllers in the sensitivity minimization problem for distributed stable plants. *Automatica*, **1991**, 27, 293-305	5.7	12
34	Frequency domain analysis and robust control design for an ideal flexible beam. *Automatica*, **1991**, 27, 947-961	5.7	40
33	Toward a computational theory of shape: An overview. *Lecture Notes in Computer Science*, **1990**, 402-407	0.9	60
32	A Skew Toeplitz Approach to the H^∞ Optimal Control of Multivariable Distributed Systems. *SIAM Journal on Control and Optimization*, **1990**, 28, 653-670	1.9	39
31	Nonlinear H Theory **1990**, 267-276		
30	Operator Theoretic Methods in the Control of Distributed and Nonlinear Systems. *The IMA Volumes in Mathematics and Its Applications*, **1990**, 51-78	0.5	
29	Standard Problem for Distributed Systems **1990**, 599-608		
28	On the parametrization of the suboptimal solutions in generalized interpolation. *Linear Algebra and Its Applications*, **1989**, 122-124, 145-164	0.9	8
27	Weighted Optimization Theory for Nonlinear Systems. *SIAM Journal on Control and Optimization*, **1989**, 27, 842-860	1.9	17

26	Iterative Commutant Lifting for Systems with Rational Symbol **1989**, 255-277		1
25	Iterative Commutant Lifting for Systems with Rational Symbol **1989**, 747-769		
24	On the four block problem, II: The singular system. *Integral Equations and Operator Theory*, **1988**, 11, 726-767	0.5	41
23	Some remarks on optimal interpolation. *Systems and Control Letters*, **1988**, 11, 259-264	2.4	7
22	On the Nehari problem for a certain class of L functions appearing in control theory, II. *Journal of Functional Analysis*, **1988**, 81, 207-218	1.4	4
21	Weighted sensitivity minimization: General plants in H and rational weights. *Linear Algebra and Its Applications*, **1988**, 109, 71-90	0.9	26
20	Some Explicit Formulae for the Singular Values of Certain Hankel Operators with Factorizable Symbol. *SIAM Journal on Mathematical Analysis*, **1988**, 19, 1081-1089	1.7	58
19	Optimal sensitivity theory for multivariate distributed plants. *International Journal of Control*, **1988**, 47, 985-992	1.5	2
18	On the Four Block Problem, I. *Operator Theory: Advances and Applications*, **1988**, 93-112	0.4	24
17	On skew Toeplitz operations, I **1987**,		1
16	On the H^∞-Optimal Sensitivity Problem for Systems with Delays. *SIAM Journal on Control and Optimization*, **1987**, 25, 686-705	1.9	58
15	Spectral Nevanlinna-Pick interpolation theory and robust stabilization **1987**,		3
14	Weighted sensitivity minimization: General plants in H and rational weights **1987**,		1
13	On the Nehari problem for a certain class of L Functions appearing in control theory. *Journal of Functional Analysis*, **1987**, 74, 146-159	1.4	35
12	Sensitivity minimization for arbitrary SISO distributed plants. *Systems and Control Letters*, **1987**, 8, 189-195	2.4	14
11	On the uniqueness of a minimal norm representative of an operator in the commutant of the compressed shift. *Proceedings of the American Mathematical Society*, **1987**, 101, 687-687	0.8	2
10	On decoupling the H optimal sensitivity problem for products of plants. *Systems and Control Letters*, **1986**, 7, 239-245	2.4	9
9	Gain optimization for distributed plants. *Systems and Control Letters*, **1986**, 6, 295-301	2.4	9

8	On the multivariable gain margin problem. *Automatica*, **1986**, 22, 381-383	5.7	11
7	Proper stable Bezout factorizations and feedback control of linear time-delay systems. *International Journal of Control*, **1986**, 43, 837-857	1.5	56
6	On the Sensitivity Minimization Problem for Linear Time-Varying Periodic Systems. *SIAM Journal on Control and Optimization*, **1986**, 24, 1076-1085	1.9	28
5	**1986**,		3
4	Modified Nevanlinna-Pick interpolation and feedback stabilization of linear plants with uncertainty in the gain factor. *International Journal of Control*, **1982**, 36, 331-336	1.5	38
3	Families of curves with nodes on K3 surfaces. *Mathematische Annalen*, **1982**, 260, 239-253	1	29
2	Feedback stabilization of linear dynamical plants with uncertainty in the gain factor. *International Journal of Control*, **1980**, 32, 1-16	1.5	90
1	Non-rigid 2D-3D pose estimation and 2D image segmentation		2