Curriculum Vitae of AXEL PINZ

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ADDRESS

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PERSONAL INFORMATION

Born March 2, 1958, Vienna, Austria.
Married since 1995 with Brigitte Mühlbacher-Pinz.
Daughter Anna Pinz was born in July 1997.
Daughter Nora Pinz was born in May 1999.

CURRENT POSITION

a.o.Univ.Prof. (associate professor) at the Institute of Electrical Measurement and Measurement Signal Processing, Graz University of Technology. Performing research and teaching in the areas of Computer Vision and Image-Based Measurement.

EDUCATION

Habilitation	Graz University of Technology, Applied Computer Science, 1995.
Dr.techn.	Vienna University of Technology, Computer Science, 1988, with distinction. Thesis title: Ein bildverstehendes Expertensystem zur Erkennung von Bäumen auf Farb-Infrarot-Luftbildern. Thesis advisors: Prof. H. Schauer and Prof. G. Stolitzka.
Dipl.Ing.	Vienna University of Technology, Electrical Engineering, 1983. Thesis title: Microcomputergesteuerter Emulator des CDC 200-UT Datenübertragungsprotokolls. Thesis advisors: Prof. F. Paschke, DI Franz Pacha.
Music	Hochschule für Musik und Darstellende Kunst, „außerordentlicher Hörer" studying the clarinet.
AHS	Wasagymnasium BG-IX, Vienna, 1969-1976, with distinction.
Volksschule	Knollgasse, Vienna, 1965-1969, with distinction.

EMPLOYMENT

10/96 - 1/97 and 10/97 - 6/99

Visiting professor at Graz University of Technology
Teaching and performing research in Computer Vision and Computer Graphics

8/94 - 9/97

Head of the Computer Vision Group
Institute for Computer Graphics and Vision (head: Prof. Leberl)
Graz University of Technology
Münzgrabenstr. 11
A-8010 Graz, Austria

8/90 - 7/94 and 7/99 - 10/99

Assistant Professor, then Univ.Doz., Associate Professor (a.o. Univ.Prof.) since 1996.
Department for Pattern Recognition and Image Processing (head: Prof. Kropatsch)
Institute of Automation
Viena University of Technology
Treitlstr. 3/1832
A-1040 Wien, Austria

5/83-7/90

Postgraduate and Postdoc researcher
Institute for Surveillance and Remote Sensing
University of Natural Resources
Peter Jordan Str. 82
A-1190 Wien, Austria

1978 - 1985

Self-employed person running a small company in Vienna. Projects ranged from industrial applications of electronic engineering and computer science to management of software projects and scientific consulting.

TEACHING ACTIVITIES

- Supervisor or co-supervisor of more than 60 Master's thesis and 30 Ph.D. thesis students, 1986 - today.

- Lecture on Augmented Reality, jointly teaching with Dieter Schmalstieg (2008 and 2009) and with G. Reitmayr (2010-today), 2008-2014.

- Seminar on "Scientific Communication in English", jointly teaching with Katherine Tiede (2007 and 2008) and with Nicholas Scott (2009-today), 2007-today.

- Lecture on Electrical Measurement and Sensors (Vorlesung „Messtechnik 2"), approximately 120 students, Graz University of Technology, 2000-today.

- Lecture and laboratory on Image Based Measurement (VO, LU „Bildgestützte Messtechnik"), TU Graz, 2001-today.

- Lecture and practice on 'Image Understanding' (Vorlesung, Konstruktionsübung „Bildverstehen"), Graz University of Technology, 1996 - today.

- Lecture on Optical Measurement Methods (VO „Optische Methoden in der Messtechnik"), TU Graz, 2002-today.

- Several laboratories on Electrical Measurement and Fundamentals of Electrical Engineering, Graz University of Technology, 1999-2003.

- Lecture and practice on 'Image Analysis and Computer Graphics' (Vorlesung, Konstruktionsübung „Bildanalyse und Computergraphik"), approximately 150 students, Graz University of Technology, 1997 - 1999.

- Seminars and student projects on 'Computer Graphics' at Graz University of Technology, 1997.

- Seminars and student projects on 'Image Analysis' at Graz University of Technology, 1994 - 1999.

- 'Konversatorium', Graz University of Technology, 1994 - 2002.

- Lecture and practice on 'Selected topics of Image Analysis' (Vorlesung, Konstruktionsübung „AK Bildanalayse"), Graz University of Technology, 1994 - 1999.

- Lecture and practice on 'CAD systems'(Vorlesung, Konstruktionsübung „CAD Systeme"), Graz University of Technology, 1999.

- Lecture and practice on 'Image Understanding' (Vorlesung, Laborübung „Bildverstehen"), Vienna University of Technology, 1986 - 1996.

- Project leader for the installation of a practice 'Introduction to Programming' (Laborübung „Einführung in das Programmieren"), Vienna University of Technology, 1992. Approximately 1000 students.

- Assistant of Prof. Kropatsch in many courses, practices and seminars on Pattern Recognition and Image Processing at the Vienna University of Technology, 1990 - 1994.

NON-UNIVERSITY ACTIVITIES

- Conference Chairman:

  - Program co-chair (with Thomas Pock): DAGM/OAGM 2012, Graz, Austria, Aug. 28-31, 2012.
  - General Chair: ECCV'2006, Graz, Austria, May 7-13, 2006.
  - IAPR TC-8 Workshop on Machine Perception Applications, Graz, September 2-3, 1996.
  - 20.ÖAGM/AAPR conference, Seggau, May 9-10, 1996.
  - Workshop 'Vision Milestones 1995', Vorau, March 13-16, 1995.
  - 1st KBVision Workshop, Vienna, May 25-26, 1994.
  - 13.ÖAGM/AAPR (Austrian Association of Pattern Recognition), Vienna, May 26-27, 1989

- Program Committee member for the ÖAGM/AAPR conferences 1990-2004.

- Reviewer for many international conferences, including: CVPR, ICCV, ECCV, ICPR, ECAI, ICIP, FUZZ-IEEE, ISPA, ISISPA.

- Member of the local arrangements committee, 10th European Conference on Artificial Intelligence (ECAI'92), Vienna, August 3-7, 1992.

- Initial organizing committee member, 13th International Conference on Pattern Recognition (ICPR), Vienna, 1996.

- Member of IEEE, IAPR, ÖAGM/AAPR, ÖGAI, ÖVE.

- Member of the board of ÖAGM/AAPR 1987-2003.

- Vice-chairman of ÖAGM/AAPR 1995-1997.

- Chairman of ÖAGM/AAPR 1997-2003.

- Reviewer for the following journals: Int J Computer Vision (IJCV), IEEE Transactions on Pattern Analysis and Machine Intelligence (IEEE-PAMI), IEEE Transactions on Systems, Man and Cybernetics (IEEE-SMC), IEEE Transactions on Medical Imaging (IEEE-TMI), International Journal of Pattern Recognition and Artificial Intelligence (IJPRAI), Pattern Recognition Letters (PRL), Pattern Recognition (PR), International Journal of Remote Sensing, AI Journal, Image and Vision Computing (IVC), Machine Vision and Applications (MVA). Pattern Recognition and Artificial Intelligence (IJPRAI) and of the International Journal on Information Fusion (IF, Elsevier).

- Editor of a series of 16 volumes of 'Computer Vision and Graphics Dissertations', Oldenbourg Verlag / OCG Schriftenreihe.

PROJECTS

Co-proposer and member of the scientific advisory board of the Austrian K+ Competence Center VRVis (Virtual Reality and Visualization)

Involved in the following projects (either as an employee, or conducting research activities):

- FWF (Austrian Science Fund - „Fonds zur Förderung der wissenschaftlichen Forschung") Project 4489, „Rechnerunterstützte objektivierte Luftbildinterpretation"

- FWF Project S38/2, „Forschungsschwerpunkt Fernerkundung"

- FWF Project P8785, 'Image Understanding and Standardized Image Processing'

- 'Fast Robust Pattern Matching', Industrial Partner: Sensotech Austria, supported by FFF

- Christian Doppler Laboratorium für Kraftfahrzeugmesstechnik

Project leader of:

- FWF Project S7003-MAT, „Forschungsschwerpunkt" 'Theory and Applications of Digital Image Processing and Pattern Recognition', Task 3-1 'Information Fusion in Image Understanding', 1994-1999

- Industrial application project „Aktive Inspektion", Böhler Edelstahl, 1996-1997

- Industrial application project „Verbrennungsbildanalyse", AVL, 1995-1997

- European TMR-project VIRGO, task 5 (fusion): 'Vision-based robot navigation research network', 1996-1999

- BMWVK project „Zentrum für Objektdokumentation aus Digitalbildern", 1996-1997

- Industrial application project „Montagezelle", M&R, 1996-1998

- FWF project P11735-MED, 'Integrated image analysis system for recognition of melanoma', „Mitantragsteller" (co-proposer), leading the part-project in Graz, 1997-1998

- FWF project P12074-MAT 'Studierstube: Augmented Reality for Scientific Visualization', „Mitantragsteller", leading the part-project in Graz, 1997-1999

- FWF project P12278-MAT 'Application of Image Processing in Materials Science', „Mitantragsteller", leading the part-project in Graz, 1997-2000

- FWF project P14269-MED 'Automated Image Analysis of Posterior Capsule Opacification', „Mitantragsteller", leading the part-project in Graz, 2000-2002

- FWF project P14470-INF 'Mobile Collaborative Augmented Reality', „Mitantragsteller", leading the part-project in Graz, 2000-2002

- FWF project P15748 'Tracking with Smart Sensors', 2002-2005

- European Project IST-2001-34401 'VAMPIRE - Visual Active Memory Processes and Interactive Retrieval', leading the project part in Graz, 2002-2005

- FWF JRP S91 'Cognitive Vision', deputy coordinator (together with Markus Vincze), and sub-project leader S9103 'Representations for Cognitive Processes', 2004-2009

- One out of six professors at TU Graz involved in the FWF doctoral program W1209 on the "Confluence of Vision and Graphics", 2008-2011.

- European Project 3D-PITOTI, FP7-ICT-600545, leading the 3D scanner development, 2013-1015.

- FWF project P27076-N15 'Space-Time Representation and Recognition in Computer Vision', 2014-2017.

AWARDS AND GRANTS

- Award of the Austrian working group for Pattern Recognition: ÖAGM-Preis 1985 for presentation and paper [234].

- FWF grant A0052-PHY for establishing a research cooperation between Austria and Canada.

- Best demonstration award at the British Machine Vision Conference 1998 [110] sponsored by UK Industrial Vision Association.

- Best paper award at the 23rd ÖAGM/AAPR conference 1999 [210].

- Best paper prize – runner-up at CVPR 2006 [62].

- Best science paper at BMVC 2008 [56].

- Best poster award, Scene Understanding Workshop at CVPR 2014, "Bags of Spacetime Energies for Dynamic Scene Recognition", see [39].

PRESENTATIONS
International Meetings

1986	-	Maratea, Italy, NATO ARW on Pyramidal Systems, presentation 'Forest-Damage-Interpretation using a Vision Expert System'.
1988	-	Budapest, Hungary, 2nd Hungarian Workshop on Image Analysis, presentation 'A Remote Sensing Application for a Computer Vision System'.
1990	-	College Park, USA, IAPR-TC7 workshop on 'Multisource Data Integration in Remote Sensing', presentation [161].
	-	Atlantic City, USA, 10th ICPR, poster [162].
1992	-	Riga, Latvia, DIP 92, presentation [159].
	-	Vienna, Austria, ECAI 92, presentation [155].
	-	The Hague, The Netherlands, ICPR 92, posters [154, 158].
	-	Vienna, Austria, Club Jules Gonin, XVIII Meeting, presentation [261].
1993	-	Lübeck, Germany, DAGM 93, presentation [150].
1995	-	San Jose, California, IS&T/SPIE Symposium, presentation [148].
	-	Vorau, Austria, Workshop 'Vision Milestones 95', presentation [141].
	-	Paris, France, European Symposium on Satellite Remote Sensing, presentation [139].
	-	Milano, Italy, International Workshop on Soft Computing in Remote Sensing data Analysis, invited lecture [136].
1996	-	Vienna, XVIII ISPRS congress, Tutorial 'Computer Vision in Photogrammetry and Remote Sensing: Towards Automatic Mapping'.
	-	Crete, EU-TMR project VIRGO kick-off meeting, presentation 'active fusion'.
	-	Paris, GDR-PRC ISIS Workshop, invited presentation [128].
1997	-	Paris, ENST Telecom Paris, invited presentation, 'Computer Vision research at ICG TU Graz'.
	-	Keszthely, Hungary, 1st KEPAF conference, invited presentation [121].
1998	-	Victoria, B.C., Canada, presentations [119, 120].
	-	Kingston, UK, presentation [107].
	-	Brisbane, Australia, 14th ICPR, presentation [111].
2001	-	Stuttgart, Germany, Vision, Modeling and Visualization VMV 2001, presentation [86].
2004	-	Prague, Czech Republic, Cognitive Vision Colloquium, poster presentation 'Towards Active Categorization'.
	-	Pommersfelden, Germany, VAMPIRE industry workshop, presentation 'Hybrid Tracking for Mobile Augmented Reality'.
	-	Graz, Austria, Summer school SSIP'04, Lecture 'Real-Time Tracking'.
2009	-	Zagreb, Croatia, lecture on 'Active object categorization'.
2011	-	Prague, Czech republic, 28th Pattern recognition and computer vision colloquium, lecture 'Active cognition - the confluence of recognition and reconstruction'.
2015	-	Toronto, York University, Int. Conf. on Perceptual Organization, invited lecture 'Space-Time representation and Recognition - from Dynamic Scenes to Actions in Context'.

Study Trips

1992	-	Amherst, University of Massachusetts; Boston, Massachusetts Institute of Technology; Montreal, McGill University; Hull, University of Quebec; Kitchener-Waterloo, University of Waterloo; Toronto, University of Toronto; presentation *'Pattern Recognition and Image Analysis in Austria'*.
	-	Petawawa, Canada National Forest Institute, presentation *'The Austrian Forest Inventory System'*.
1995	-	San Jose, Stanford University; Los Angeles, University of Southern California; presentation *'ICG and the Computer Vision Group, Information Fusion'*.
	-	San Jose, IBM Almaden Research Center.
1997	-	Prague, Czech Technical University, presentation *'Object Recognition, 3D Object Reconstruction, and Augmented Reality'*.
2000	-	Birmingham University, presentation *'Active, autonomous image analysis – Object recognition, tracking, mobile robit navigation'*.
2002	-	Ljubljana, Slovenia, presentation 'Tracking@EMT'.

In Austria

1983 - Salzburg, 5th ÖAGM-Conference, presentation [236].
1985 - Tulln, ADV-Congress „EDV für Umweltschutz und Energiewirtschaft", presentation [235].
 - Klagenfurt, 9th ÖAGM-Conference, presentation [234].
1986 - Wien, invited lecture at the ÖGAI/ÖSGK: „Bildverstehen am Beispiel des Vision Expert Systems VES".
 - Ottenstein, 10.GWAI/2.ÖGAI-Conference, presentation [163].
1987 - Wien, TU Wien, ÖGAI Vortragsreihe „AI-Forschungsthemen", presentation „Bildverstehen in der AI".
 - Linz, 11th ÖAGM-Conference, presentation [233].
 - Wien, Tagesseminar „Bildverstehen" der ÖGAI/ÖSGK.
1989 - Innsbruck, invited lecture at the ÖGAI-Conference: „Tutorial Bildverstehen".
 - Wien, 13th ÖAGM-Conference on 'Knowledge-based Pattern Recognition', presentation [232].
1990 - Innsbruck, Inst.f.Informatik, invited lecture, „Anwendungen aus Bildverstehen".
 - Wien, invited lecture at Univ. of Vienna: „Bildverstehen im Rahmen der Mustererkennung".
 - Linz, 4. Kongress UTEC'90, invited presentation [227].
1991 - Klagenfurt, 15th ÖAGM-Conference, presentation [225].
 - Salzburg, ÖOG, presentation [30].
 - Wien, I. Univ. Augenklinik, presentation: „Scanning Laser Ophthalmoskop und Digitale Bildanalyse".
 - Wien, TU Wien, PRIP, presentation [266].
1992 - Wien, 16th ÖAGM-Conference, presentation [223].
1993 - Wien, Ophthalmologische Gesellschaft, 8.3.93, presentation: „Das Scanning Laser Ophthalmoskop – Digitale Bildanalyse".
 - Wien, invited presentation at Univ. of Vienna, „Bildverstehen".
1994 - Wien, 1st KBVision Workshop, 25.5.94, presentation: „KBVision in der Lehre am PRIP"
 - Wien, 1st KBVision Workshop, 26.5.94, presentation: 'Information Fusion in Image Understanding'
 - Innsbruck, Kunststraße 1994, 20.8.94, invited presentation: „Licht und Physik"
 - Graz, Inst.f.Computer Graphics, 5.10.94, presentation: „Bildverstehen: Interpretation, Messen, 'Active Fusion'"
1995 - Graz, TU Graz, Habilitationskolloquium „Bildverstehen"
1996 - Seggau, 20th ÖAGM conference, presentation 'The ICG Computer Vision Group'
 - Wien, invited lecture, Eurographics lecturing tour, „Bildverstehen: Inverse Computergraphik"
1998 - Graz, TU Graz, Reihe „Natur-System-Technik", Vortrag „Bildverstehen"
 - Graz, TU Graz, Seminar „Theoretische Informatik: Lernalgorithmen in der Robotik", Vortrag „Sehen in der Robotik"
2000 - Wien, Österreichisches Forschungsinstitut für Artificial Intelligence, Vortrag „Aktive autonome Bildanalyse – Objekterkennung, Tracking, mobile Roboter"
 - Villach, 24th ÖAGM/AAPR conference, presentation [207].
2002 - Graz, 26th ÖAGM/AAPR conference, presentation [207].
 - Villach, CTR und FH, Vortrag „Tracking für AR Systeme."
2003 - Wien, 'Future Interfaces', 3.3.03, presentation 'Tracking for Future AR Interfaces'.
 - Laxenburg, 6.6.03, ÖAGM/AAPR conference, presentation [197].
2008 - Graz, Workshop on the 'History of Computer Vision', lecture 'Vision: Paradigms, systems, algorithms, applications, evaluation'.

Invited – Application for a Full Professor Position („Berufungsvortrag")

1997 - University Paris XI, Orsay, Professor in Computer Vision, Audition.
1999 - Graz University of Technology, Professor in „Neuroinformatik", Presentation „Bildverstehen – Aktive Systeme, Theorie, Anwendungen".

PUBLICATIONS

Journal papers

[1] C. Feichtenhofer, A. Pinz, and R. Wildes. Dynamic scene recognition with complementary spatiotemporal features. *IEEE Transactions on Pattern Analysis and Machine Intelligence*, 2016. in print.

[2] C. Alexander, A. Pinz, and C. Reinbacher. Multi-scale 3D rock-art recording. *Digital Applications in Archaeology and Cultural Heritage*, 2(2–3):181–195, 2015.

[3] S. Šegvić, Karla Brkić, Zoran Kalafatić, and Axel Pinz. Exploiting temporal and spatial constraints in traffic sign detection from a moving vehicle. *Machine Vision and Applications*, 25(3), 2014. DOI http://dx.doi.org/10.1007/s00138-011-0396-y.

[4] M. Fussenegger, P. Roth, H. Bischof, R. Deriche, and A. Pinz. A level set framework using a new incremental, robust Active Shape Model for object segmentation and tracking. *Image and Vision Computing*, 27(8):1157–1168, 2009.

[5] A. Pinz, H. Bischof, W. Kropatsch, G. Schweighofer, Y. Haxhimusa, A. Opelt, and A. Ion. Representations for cognitive vision: A review of appearance-based, spatio-temporal, and graph-based approaches. *ELCVIA - Electronic Letters on Computer Vision and Image Analysis*, 7(2):35–61, 2008.

[6] A. Opelt, A. Pinz, and A. Zisserman. Learning an alphabet of shape and appearance for multi-class object detection. *International Journal of Computer Vision*, 80(1):16–44, 2008.

[7] H. Siegl, M. Hanheide, S. Wrede, and A. Pinz. An augmented reality human-computer interface for object localization in a cognitive vision system. *Image and Vision Computing*, 25:1895–1903, 2006.

[8] A. Pinz. Object categorization. *Foundations and Trends in Computer Graphics and Vision*, 1(4):255–353, 2006.

[9] G. Schweighofer and A. Pinz. Robust pose estimation from a planar target. *IEEE Transactions on Pattern Analysis and Machine Intelligence*, 28(12):2024–2030, 2006.

[10] A. Opelt, A. Pinz, M. Fussenegger, and P. Auer. Generic object recognition with Boosting. *IEEE Transactions on Pattern Analysis and Machine Intelligence*, 28(3):416–431, 2006.

[11] M. Ribo, M. Brandner, and A. Pinz. A flexible software architecture for hybrid tracking. *Int.J. of Robotic Systems*, 21(2):53–62, 2004.

[12] O. Findl, W. Bühl, H. Siegl, and A. Pinz. Removal of reflections in the photographic assessment of PCO by fusion of digital retroillumination images. *Investigative Ophthalmology & Vision Science*, 44:275–280, 2003.

[13] O. Findl, W. Buehl, R. Menapace, M. Georgopoulos, G. Rainer, H. Siegl, A. Kaider, and A. Pinz. Comparison of 4 methods for quantifying posterior capsule opacification. *J Cataract Refractive Surgery*, 29(Jan):106–111, 2003.

[14] M. Ribo, H. Ganster, M. Brandner, P. Lang, Ch. Stock, and A. Pinz. Hybrid tracking for outdoor AR applications. *IEEE Computer Graphics and Applications Magazine*, 22(6):54–63, Nov/Dec 2002.

[15] W. Bühl, O. Findl, R. Menapace, M. Georgopoulos, G. Rainer, H. Siegl, and A. Pinz. Reproducibility of standardized retroillumination photography for quantification of regeneratory after-cataract. *J Cataract Refract Surg*, 28:265–270, 2002.

[16] L. Yin, A. Basu, St. Bernögger, and A. Pinz. Synthesizing realistic facial animations unsing energy minimization for model-based coding. *Pattern Recognition*, 34:2201–2213, 2001.

[17] M. Ribo and A. Pinz. A comparison of three uncertainty calculi for building sonar-based occupancy grids. *Int.J. Robotics and Autonomous Systems*, 35:201–209, 2001.

[18] H. Ganster, A. Pinz, R. Röhrer, E. Wildling, M. Binder, and H. Kittler. Automated melanoma recognition. *IEEE Transactions on Medical Imaging*, 20(3):233–239, 2001.

[19] Klaus Wiltschi, Axel Pinz, and Tony Lindeberg. An automatic assessment scheme for steel quality inspection. *Machine Vision and Applications*, 12:113–128, 2000.

[20] L. Paletta and A. Pinz. Active object recognition by view integration and reinforcement learning. *Int.J. Robotics and Autonomous Systems*, 31(1-2):71–86, 2000.

[21] H. Borotschnig, L. Paletta, M. Prantl, and A. Pinz. Appearance based active object recognition. *Int.J. Image and Vision Computing*, 18(9):715–728, 2000.

[22] Th. Auer and A. Pinz. The integration of optical and magnetic tracking for multi-user augmented reality. *Computers&Graphics*, 23(6):805–808, 1999.

[23] H. Borotschnig, L. Paletta, M. Prantl, and A. Pinz. A comparison of probabilistic, possibilistic and evidence theoretic fusion schemes for active object recognition. *Int.J. Computing*, 62(4):293–319, 1999.

[24] P. Schallauer, A. Pinz, and W. Haas. Automatic restoration algorithms for 35mm film. *VIDERE*, 1(3):60–85, 1999.

[25] Axel Pinz, Stefan Bernögger, Peter Datlinger, and Andreas Kruger. Mapping the human retina. *IEEE Transactions on Medical Imaging*, 17(4):606–619, 1998.

[26] A. Pinz, M. Prantl, H. Ganster, and H. Kopp-Borotschnig. Active fusion - a new method applied to remote sensing image interpretation. *Pattern Recognition Letters*, 17(13):1349–1359, November 1996.

[27] A. Pinz, M. Prantl, and H. Ganster. A robust affine matching algorithm using an exponentially decreasing distance function. *J.UCS – Journal of Universal Computer Science*, 1(8), Springer, 1995. available on WWW via http://www.jucs.org.

[28] Axel Pinz, Marek B. Zaremba, Horst Bischof, Francois A. Gougeon, and Michel Locas. Neuromorphic methods for recognition of compact image objects. *Machine Graphics and Vision*, 2(3):209–230, 1993.

[29] Horst Bischof and Axel Pinz. Artificial versus real neural networks. *Behavioral and Brain Sciences*, 15(4):712, 1992.

[30] Peter Datlinger, Axel Pinz, Hubert Plank, Susanne Binder, Michaela Velikay, Ulrike Stolba, and A. Wedrich. Digitale Bildanalyse zur Darstellung des Fundus bei seniler Makuladegeneration. *Spektrum Augenheilkd*, 6(1):13–19, 1992.

[31] Horst Bischof, Werner Schneider, and Axel Pinz. Multispectral classification of Landsat-images using neural networks. *IEEE Transactions on Geoscience and Remote Sensing*, 30(3):482–490, 1992.

Refereed international conferences

[32] C. Feichtenhofer, A. Pinz, and A. Zisserman. Convolutional two-stream network fusion for video action recognition. In *Proc. CVPR*, 2016.

[33] C. Feichtenhofer, A. Pinz, and R. Wildes. Spatiotemporal residual networks for video action recognition. In *Proc. NIPS*, 2016.

[34] Th. Höll and A. Pinz. Radiometry propagation to large 3D point clouds from sparsely sampled ground truth. In *Proc. ACCV Workshop on e-heritage*, 2016.

[35] Th. Höll and A. Pinz. Cultural heritage acquisition: Geometry-based radiometry in the wild. In *Proc. 3DV*, pages 389–397, 2015.

[36] C. Feichtenhofer, A. Pinz, and R. Wildes. Dynamically encoded actions based on spacetime saliency. In *Proc. CVPR*, 2015.

[37] M. Seidl, E. Wieser, M. Zeppelzauer, A. Pinz, and C. Breiteneder. Graph-based shape similarity of petroglyphs. In *Proc. ECCV 2014 Workshop Visart*, pages 133–148, 2015.

[38] Th. Höll, G. Holler, and A. Pinz. A novel high accuracy 3D scanning decvice for rock-art sites. In *Proc. ISPRS Technical Commission V Symposium*, pages 285–291, 2014.

[39] C. Feichtenhofer, A. Pinz, and R. Wildes. Bags of spacetime energies for dynamic scene recognition. In *Proc. CVPR*, 2014.

[40] M. Goller, C. Feichtenhofer, and A. Pinz. Fusing RFID and computer vision for probabilistic tag localization. In *Proc. IEEE RFID 2014*, 2014.

[41] K. Brkić, S. Rasić, A. Pinz, Z. Kalafatić, and S. Šegvić. Combining spatio-temporal appearance descriptors and optical flow for human action recognition in video data. In *Proc. 2nd Croatian Computer Vision Workshop*, pages 9–14, 2013.

[42] C. Feichtenhofer and A. Pinz. Spatio-temporal good features to track. In *Proc. ICCV Workshop on Computer Vision for Autonomous Driving*, 2013.

[43] C. Feichtenhofer, A. Pinz, and R. Wildes. Spacetime forests with complementary features for dynamic scene recognition. In *Proc. BMVC*, 2013.

[44] K. Brkić, A. Pinz, Z. Kalafatić, and S. Šegvić. Towards space-time semantics in two frames. In *Proc. ECCV Workshop: 3rd IEEE ARTEMIS International Workshop on Analysis and Retrieval of Tracked Events and Motion in Imagery Streams*, volume LNCS 7585, pages 121–130. Springer, 2012.

[45] K. Brkić, A. Pinz, S. Šegvić, and Z. Kalafatić. Histogram-based description of local space-time appearance. In *Proc. SCIA*, volume LNCS 6688, pages 206–217. Springer, 2011.

[46] V. Ramanathan and A. Pinz. Active object categorization on a humanoid robot. In *Proc. VISAPP*, pages 235–241, 2011.

[47] P. Holzer, C. Li, and A. Pinz. Detecting and tracking people in motion – a hybrid approach combining 3D reconstruction and 2D description. In *Proc. VISAPP*, pages 561–568, 2011.

[48] K. Pötsch and A. Pinz. 3D object categorization with probabilistic contour models – Gaussian mixture models for 3D shape representation. In *Proc. VISAPP*, pages 99–106, 2011.

[49] K. Pötsch and A. Pinz. 3D geometric shape modeling by '3D contour cloud' reconstruction from stereo videos. In *Proc. CVWW*, pages 259–270, 2011.

[50] K. Brkić, S. Šegvić, Z. Kalafatić, I. Sikirić, and A. Pinz. Generative modeling of spatio-temporal traffic sign trajectories. In *Proc. 2nd CVPR Workshop on use of Context in Video Processing*, pages 25–31, 2010.

[51] P. Holzer and A. Pinz. Mobile surveillance by 3D-Outlier analysis. In *Proc. ACCV Workshop on Visual Surveillance*, 2010.

[52] M. Demuth, F. Aurenhammer, and A. Pinz. Straight skeletons for binary shapes. In *Proc. CVPR Workshop NORDIA*, pages 9–16, 2010.

[53] P. Holzer and A. Pinz. Using outliers in structure and motion analysis to reconstruct foreground motion. In *Proc. CVWW*, pages 99–106, 2010.

[54] G. Schweighofer, S. Segvic, and A. Pinz. Online/realtime structure and motion for general camera models. In *Proc. IEEE WACV, Int. Workshop on Applications of Computer Vision*, 2008.

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