

CURRICULUM VITAE 18/03/2018

Robert Benavente Vidal

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Education

- 2007 PhD, Computer Science, Universitat Autònoma de Barcelona. Advisor: Maria Vanrell.
- 2000 MS, Computer Science, Universitat Autònoma de Barcelona.
- 1998 BA, Computer Engineering, Universitat Autònoma de Barcelona.

Awards

- Annual Best PhD Thesis Award (Computer Science Dept. UAB) [Faculty level] (2007).
- "Juan de la Cierva" Fellowship – Spanish Research Council award for Young Doctors (2007).

Experience

- 9/09 - Present Tenure-track Lecturer, Universitat Autònoma de Barcelona, Spain.
- 9/09 - 1/10 Visiting Professor, University of East Anglia, United Kingdom.
- 1/08 - 9/09 "Juan de la Cierva" Research Fellow, Computer Vision Center, Barcelona, Spain.
- 9/07 - 12/07 Postdoctoral researcher, Computer Vision Center, Barcelona, Spain.
- 9/03 - 9/07 Assistant Lecturer, Universitat Autònoma de Barcelona, Spain.
- 5/02 - 7/02 Visiting PhD student, University of East Anglia, United Kingdom.
- 9/99 - 9/03 Predoctoral fellow, Universitat Autònoma de Barcelona, Spain.
- 1/99 - 9/99 Teaching assistant, Universitat Autònoma de Barcelona, Spain.
- 10/97 - 12/98 Research assistant, Computer Vision Center, Barcelona, Spain.

Teaching

Universitat Autònoma de Barcelona:

Graduate courses on the Master on Computer Vision:

Module 5. Visual Recognition (Project) 2017-2018

Module 5. Visual Recognition (Colour Image Descriptors) 2013-2016

Graduate courses on the Master on Computer Vision and Artificial Intelligence:

Advanced Computer Vision 2008-2011

Undergraduate courses on the Computer Science Degree

Computer Fundamentals 2013-2018

Artificial Intelligence 2011-2013

Artificial Vision 2009-2012

Data Structures 1998-99, 2007-08
Programming Languages 2004-2007
Algorithms and Programming 2003-04, 2006-07
Computer Graphics 1999-2006
Methodology of Project Management 2004-05

Undergraduate courses on the Aeronautical Management Degree

Artificial Intelligence 2010-2018
Algorithms and Programming 2004-2005

Preparatory courses for first year undergraduate students:

Programming in C 2017-2018

Publications

Journal publications

1. I. Rafegas, J. Vazquez-Corral, R. Benavente, M. Vanrell, S. Alvarez. Enhancing spatio-chromatic representation with more-than-three color coding for image description. *Journal of the Optical Society of America A*, 34(5):827-837, 2017.
2. C.A. Párraga, R. Benavente, M. Vanrell, and R. Baldrich. Psychophysical measurements to model inter-colour regions of colour-naming space. *Journal of Imaging Science and Technology*, 53(3):0311061-0311068, 2009.
3. R. Benavente, M. Vanrell, and R. Baldrich. Parametric Fuzzy sets for Automatic Color Naming. *Journal of the Optical Society of America A*, 25(10):2582-2593, 2008.
4. R. Benavente, M. Vanrell, and R. Baldrich. A Data Set for Fuzzy Colour Naming. *Color Research and Application*, 31(1):48-56, 2006.
5. R. Benavente, M. Vanrell, and R. Baldrich. Estimation of fuzzy sets for computational colour categorization. *Color Research and Application*, 29(5):342-353, 2004.
6. M. Vanrell, R. Baldrich, A. Salvatella, R. Benavente, and F. Tous. Induction operators for a computational colour texture representation. *Computer Vision and Image Understanding*, 94(1-3):92-114, 2004.
7. D. Ponsa, R. Benavente, F. Lumbreras, J. Martínez, and X. Roca. Quality control of safety belts by machine vision inspection for real-time production. *Optical Engineering*, 42(4):1114-1120, 2003.

Refereed Conference Publications

1. M. Serra, O. Penacchio, R. Benavente, M. Vanrell, and D. Samaras. The Photometry of Intrinsic Images. *IEEE Conference on Computer Vision and Pattern Recognition*, pp.1494-1501, 2014.
2. S. Beigpour, M. Serra, J. van de Weijer, R. Benavente, M. Vanrell, O. Penacchio, and D. Samaras. Intrinsic Image Evaluation on Synthetic Complex Scenes. *IEEE International Conference on Image Processing*, pp.285-289, 2013.
3. M. Serra, O. Penacchio, R. Benavente, and M. Vanrell. Names and Shades of Color for Intrinsic Image Estimation. *IEEE Conference on Computer Vision and Pattern Recognition*, pp. 278-285, 2012.
4. J. Vazquez-Corral, R. Benavente, and M. Vanrell. Naming constraints constancy. 2nd Joint AVA/BMVA meeting on Biological and Machine Vision, Cambridge(UK), May 22, 2012.

5. M. Vanrell, N. Murray, R. Benavente, C.A. Parraga, X. Otazu, and R. Baldrich. Perception based representations for computational colour. Third Computational Color Imaging Workshop, pp. 16-30, 2011.
6. J. Vazquez-Corral, M. Vanrell, and R. Benavente. Color names as a constraint for Computer Vision problems. The CREATE 2010 Conference, pp.324-328, Gjovik (Norway), 2010.
7. C.A. Párraga, R. Benavente, M. Vanrell, and R. Baldrich. Modelling inter-colour regions of Colour Naming Space. 4th European Conference on Color in Graphics, Imaging and Vision, pp. 218-222, 2008.
8. M. Vanrell, R. Baldrich, X. Otazu, R. Benavente, A. Salvatella, F. Tous, and S. Alvarez. A five-stage model for computational colour-texture perception. First Iberian Congress on Perception, Barcelona, July 6-8, 2005.
9. R. Benavente, and M. Vanrell. Fuzzy colour naming based on sigmoid membership functions. 2nd European Conference on Color in Graphics, Imaging and Vision, pp. 135-139, 2004.
10. R. Baldrich, M. Vanrell, R. Benavente, and A. Salvatella. Color Enhancement based on perceptual sharpening. IEEE International Conference on Image Processing, v. 3, pp. 401-404, 2003.
11. F. Tous, A. Borràs, R. Benavente, R. Baldrich, M. Vanrell, and J. Lladós. Textual descriptors for browsing people by visual appearance. 5th Congrès Català d'Intel·ligència Artificial, Escrig, Toledo and Golobardes (Eds.), Lecture Notes in Artificial Intelligence, vol.2504, pp.419-429, Springer, 2002.
12. R. Benavente, F. Tous, R. Baldrich, and M. Vanrell. Statistical Modelling of a Colour Naming Space. 1st European Conference on Color in Graphics, Imaging and Vision, pp. 406 - 411, 2002.
13. F. Lumbreras, X. Roca, D. Ponsa, R. Benavente, J. Martínez, S. Sánchez, C. Antens, and J.J. Villanueva. Visual Inspection of Safety Belts. 5th Conference on Quality Control by Artificial Vision, v. 2, pp. 526-531, 2001.
14. R. Benavente, G.Sánchez, R.Baldrich, M.Vanrell, and J.Lladós. Normalized colour segmentation for human appearance description. 15th International Conference on Pattern Recognition, pp.637-641, 2000.
15. R. Benavente, M.C. Olivé, M. Vanrell, and R. Baldrich. Colour Perception: A Simple Method for Colour Naming. 2nd Congrès Català d'Intel·ligència Artificial, pp. 340-347, 1999.
16. A. Pujol, J. Vitrià, P. Radeva, X. Binefa, R. Benavente, E. Valveny and C. Von Land. Real Time Pharmaceutical Product Recognition Using Color and Shape Indexing. 2nd Workshop on European Scientific and Industrial Collaboration on Promoting Advanced Technologies in Manufacturing (WESIC'99), pp. 275-282, 1999.

Conference Posters with Refereed Abstracts

1. C.A.Párraga, R.Benavente, and M.Vanrell. Towards a general model of colour categorization which considers context. Perception, 39(suppl.):86, 2010.
2. R. Benavente, C.A.Párraga, and M.Vanrell. Colour categories boundaries are better defined in contextual conditions. Perception, 38(suppl.):36, 2009.
3. C.A.Parraga, R.Benavente, M.Vanrell, and R.Baldrich. Modeling colour-naming space with fuzzy sets. Perception, 36(supl.):198, 2007.

Books

1. R. Benavente, L. Igual, and F. Vilariño. Current Challenges in Computer Vision. Proceedings of the Third CVC Internal Workshop on the Progress of Research & Development (CVCR&D'08). R.Benavente, L.Igual and F.Vilariño (eds.), ISBN:978-84-936529-0-6, Bellaterra (Spain), October 24th, 2008.

Book Chapters

1. A. Gonzalez, R. Benavente, O. Penacchio, J. Vazquez-Corral, M. Vanrell, and C.A. Parraga. Coloresia: An Interactive Colour Perception Device for the Visually Impaired. Multimodal Interaction in Image and Video Applications, vol. 48, pp. 47–66, Springer, 2013.
2. R. Benavente, M. Vanrell, C. Schmid, R. Baldrich, J. Verbeek, and D. Larlus. Chapter 17: Color naming. T. Gevers, A. Gijsenij, J. van de Weijer and J-M Geusebroek (eds.), Color in Computer Vision: Fundamentals and Applications, pp. 287-317, Wiley, 2012.

PhD Thesis

- R. Benavente. A Parametric Model for Computational Colour Naming. PhD Thesis, Universitat Autònoma de Barcelona, 2007. (ISBN:978-84-935251-2-5)

Teaching Publications

1. E. Valveny, R. Benavente, A. Lapedriza, M. Ferrer, J. Garcia-Barnés, and G. Sánchez. Adaptation of a computer programming course to the ESHE requirements: Evaluation five years later. European Journal of Engineering Education, 37(3):243-254, 2012.
2. E. Valveny, R. Benavente, A. Lapedriza, M. Ferrer, and J. Garcia-Barnés. Programació en llenguatge C. Amb 56 problemes resolts i comentats. Manuals de la UAB, núm.55, Servei de Publicacions de la UAB, ISBN 978-84-490-2603-4, Bellaterra (Spain), 2009.
3. M. Ferrer, R. Benavente, E. Valveny, J. Garcia, A. Lapedriza, and G. Sàncnez. Aprendizaje cooperativo aplicado a la docencia de las asignaturas de programación en ingeniería informática. VIII Jornada sobre aprendizaje cooperativo y I Jornada sobre innovación docente, ISBN 978-84-691-4605-7, pp. 41-46, Lleida (Spain), July 4th, 2008.
4. A. Lapedriza, J. Garcia, E. Valveny, R. Benavente, M. Ferrer, and G. Sàncnez. Una experiència d'aprenentatge basada en projectes en l'àmbit de la informàtica. V Jornades d'Innovació Docent de la UAB, ISBN 978-84-490-2594-5, 7 pgs., Bellaterra (Spain), September 17-18, 2008.
5. R. Benavente, E. Valveny, J. Garcia, A. Lapedriza, M. Ferrer, and G. Sàncnez. Una experiencia de adaptación al EEES de las asignaturas de programación en ingeniería informática. V Congreso Iberoamericano de Docencia Universitaria, F.Fargueta, A.Fernández, and J.M. Maiques (eds.), ISBN 978-84-8363-413-4, pp. 213-216, Valencia (Spain), October 29-31, 2008.

Other Publications

1. R. Benavente, C.A. Parraga, and M. Vanrell. La influencia del contexto en la definición de las fronteras entre las categorías cromáticas. IX Congreso Nacional del Color (CNC'2010), pp. 92-95, 2010.

2. R. Benavente, M. Vanrell, and R. Baldrich. Assignació automàtica dels colors. UABDivulga, ISSN: 2014-6388, February, 2009.
3. R. Benavente and M. Vanrell. Parametrización del espacio de categorías de color. VIII Congreso Nacional del Color (CNC'2007), pp. 77-78. 2007.
4. R. Benavente, R. Baldrich, M.C. Olivé, and M. Vanrell. Colour naming considering the colour variability problem. Computación y Sistemas, Revista Iberoamericana de Computación, 4(1):30-43, 2000.
5. A. Martínez and R. Benavente. The AR Face Database. CVC Technical Report. 24, 1998.

Online Resources for Research

A. Martínez and R. Benavente. The AR Face Database. Available online: <http://www2.ece.ohio-state.edu/~aleix/ARdatabase.html>

Participation in Research Grants

1. MILETRANS - Deep study of intrinsic scene properties to minimize lighting effects in vision-based intelligent transportation systems (TIN2014-61068-R). co-PIs: Maria Vanrell and Robert Benavente. Spanish Ministry of Economy and Competitiveness, 114.345€, 2015-2017.
2. BioColTex - Image understanding based on biologically-inspired computer vision models (TIN2010-21771-C02-1). PI: Maria Vanrell. Spanish Ministry of Science and Innovation, 148.830€, 2011-2013.
3. Consolidated Research Group: Colour in Context Group (2009-SGR-669). PI: Maria Vanrell Martorell. Generalitat de Catalunya, 30.000€, 2009-2013.
4. Colour Visual Content Management: Modelling spatial perception and Semantics (TIN2007-64577). PI: Maria Vanrell Martorell. Spanish Ministry of Education and Science, 134.310€, 2008-2010.
5. Multimodal Interaction in Pattern Recognition and Artificial Vision (CSD 2007-00018). PI: Enrique Vidal Ruiz. Spanish Ministry of Science and Innovation (Consolider-Ingenio), 397.700€ (group share: 63.886€), 2007-2011.
6. CREATE – Colour Research for European Advanced Technology Employment (MSCF-CT-2006-045963). PI: Carinna Parraman. UE - Marie Curie Actions: Conference and Training Courses, 532.363€, 2007-2010 (group participation: 2009-2010).
7. Artificial vision system for flaw detection on lighter printings (VADEF). PI: Javier Sánchez Pujadas. Flamagas,S.A. , 186.044€, 2007-2010.
8. Audiovisual signal processing in multimodal interfaces (TIN2006-26901-E). PI: Nicolás Pérez de la Blanca. Spanish Ministry of Education and Science, 30.000€, 2006-2008.
9. Automatic Textual annotation on image databases based on visual descriptors combining spatio-chromatic information (TIN2004-02970). PI: Maria Vanrell Martorell. Spanish Ministry of Education and Science, 82.340€, 2004-2007.
10. Automatic surveillance system based on artificial vision (TIC2000-0382). PI: Josep Lladós i Canet. Spanish Ministry of Education and Science, 215.400€, 2001-2003.

11. Development of a system for quality control of seatbelts based on artificial vision (PTR1995-0510-OP). PI: Xavier Roca i Marvà. Spanish Ministry of Science and Technology, 77.700€, 2001-2002.
12. Safety Belts Automatic Visual Inspection – version 2.0 (SBAVI2.0). PI: Xavier Roca i Marvà. Elastic-Berger, S.A., 77.027€, 2001.
13. Color Safety Belts Automatic Visual Inspection (CSBAVI). PI: Xavier Roca i Marvà. Elastic-Berger, S.A., 12.000€, 2000.
14. Artificial vision system for person identification based on automatic extraction of physiognomic and clothing features (2FD97-1800). PI: Josep Lladós i Canet. Spanish Ministry of Science and Technology (FEDER Funds), 100.430€, 1999-2001.
15. Safety Belts Automatic Visual Inspection (SBAVI). PI: Xavier Roca i Marvà. Elastic-Berger, S.A., 85.500€, 1999-2000.
16. Who looks like...? (WLK2). PI: Josep Lladós i Canet. Casinos de Catalunya, S.A., 41.825€, 1998-1999.
17. Verification system for pharmaceutical products. PI: Jordi Vitrià i Marca. Centro europeo de reparto farmacéutico (CERF), 90.150€, 1998-1999.

PhD Student Supervision

Current PhD Students

Hassan Ahmed Sial (PhD expected 2019). Co-supervised with Maria Vanrell.

Graduated PhD Students

Marc Serra (PhD awarded 2015). *Modeling, estimation and evaluation of intrinsic images considering color information.* (co-supervised with Olivier Penacchio).

Master Thesis Supervised

Ricard Balagué (MS awarded 2014) *Exploring the combination of color cues for intrinsic image decomposition.*

Marc Serra (MS awarded 2010) *Estimating intrinsic images from physical and categorical color cues.*

Hany M. SalahEldeen (MS awarded 2009) *Colour naming using context-based learning through a perceptual model.*

PhD Examiner

Eduard Vazquez, Universitat Autònoma de Barcelona, October 2011.

Professional Activities

Invited talk:

“Computational Models for Colour Naming”, University of East Anglia (January 29th, 2010)

Journal Reviewer:

International Journal of Computer Vision
IEEE Transactions on Image Processing
Computer Vision and Image Understanding
Image and Vision Computing
Pattern Recognition Letters
Applied Optics
Journal of the Optical Society of America A
Optics Express
Visual Computer
Optical Engineering
Color Research and Application
Journal of Electronic Imaging
Electronic Letters on Computer Vision and Image Analysis
IEEE Transactions on Education
European Journal of Engineering Education

Program Committee Member:

IEEE Color and Reflectance in Imaging and Computer Vision Workshop (CRICV) - 2009, 2010
IASTED International Conference on Computer Graphics and Imaging (CGIM) - 2010-12
IASTED International Conference on Computer Vision (CV) - 2011

Additional Reviewer:

4th European Conference on Color in Graphics, Imaging, and Vision (CGIV'2008)

Organizing Committee Member:

Local organizing committee of ICPR'2000
Organizer of the Summer School on New Trends in Pattern Recognition for Motion Analysis, 2008

Courses:

Support staff of the course "Detección de objetos"(in Spanish) in coursera.org

Memberships:

AERFAI (Spanish association for pattern recognition and image analysis Spanish association)
ACIA (Artificial Intelligence Catalan Association)

University Service

Universitat Autònoma de Barcelona:

Coordinator of Module 9 (Master's Dissertation) of the Master in Computer Vision
Member of the Council of the Computer Science Department: 02/2006-09/2007, 09/2009-present
Member of the Council of the Engineering School: 11/2010-present
Member of the Executive Committee of the Computer Science Department: 12/2012 - present
Member of the Council of Aeronautical Management Section: 07/2016 - present
Representative of the Computer Science Department at the Aeronautical Management Teaching
Commission: 09/2014 - 07/2016