

Vicente Ordóñez-Román (publishes as Vicente Ordonez)

CONTACT INFORMATION

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RESEARCH INTERESTS

My research lies at the intersection of Computer Vision, Natural Language Processing and Machine Learning. I am especially interested in analyzing, and mining useful human insights from enormous amounts of images with associated text to improve visual recognition. I am also interested in building efficient visual recognition models that can perform high-level perceptual tasks for applications in social media, urban computing, and everyday activities. More recently, I am also involved in research on fairness and accountability in machine learning applications.

CURRENT POSITION

Assistant Professor 2016 - present
[University of Virginia \(UVA\)](#), Charlottesville, Virginia.
Department of Computer Science, School of Engineering and Applied Science.
I am leading a new UVA Computer Vision group.

PREVIOUS POSITION

Visiting Research Fellow 2015 - 2016
[Allen Institute for Artificial Intelligence \(AI2\)](#), Seattle, Washington.
I worked at the intersection of Vision and Language in the Computer Vision group led by Prof. Ali Farhadi from the University of Washington (UW).

EDUCATION

[The University of North Carolina at Chapel Hill \(UNC\)](#) 2013 - 2015
Doctor of Philosophy in Computer Science
Thesis: Language and Perceptual Categorization in Computational Visual Recognition
Committee: Tamara L. Berg (advisor), Alexander C. Berg, Jan-Michael Frahm, Yejin Choi (University of Washington), Alexei A. Efros (UC Berkeley)

[Stony Brook University, The State University of New York \(SUNY\)](#) 2009 - 2013
Master of Science in Computer Science

[Escuela Superior Politécnica del Litoral \(ESPOL\)](#), Ecuador. 2003 - 2008
Computer Engineering Degree (GPA: 9.22/10.0)

AWARDS

IBM Faculty Award, 2017
Best Long Paper Award, 2017

- Intl. Conf. on Empirical Methods in Natural Language Processing (EMNLP), 2017

Research Highlight of the Communications of the ACM, March 2016 Issue.
Allen Institute for Artificial Intelligence Hackathon 2015 – *Peer Favorite Award*
Best Paper Award – IEEE Marr Prize 2013

- International Conference in Computer Vision (ICCV), 2013

Yahoo! Key Scientific Challenges Award, 2012.
Renaissance Technologies Fellowship, 2009 - 2011.
Philanthropic Society Medal, Guayaquil, Ecuador, 2007.
Top GPA in the Computer Engineering Program, ESPOL, 2004 - 2007.

INDUSTRY EXPERIENCE	<p>Microsoft Research, Cambridge, Massachusetts. Summer 2014 <i>Research Intern in the Computer Vision Group</i> Large scale data-driven scene parsing using deep learning features. I was fortunate to work with Ce Liu and Michael Rubinstein.</p>
	<p>eBay Research Labs, San Jose, California. Summer 2013 <i>Research Intern in the Computer Vision Group</i> Worked on attribute predictions on catalog image and text collections in the Mantis Computer Vision group. My mentors were Robinson Piramuthu and Vignesh Jagadeesh.</p>
	<p>Google, Mountain View, California. Summer 2011 <i>Software Engineering Intern in the Android Multimedia Content Analysis Group</i> Automatic organization of personal image collections using visual features. This work later evolved into the Google+ Beautiful Movies made Auto Awesomely. My mentors were Rodrigo Carceroni and Wei Hua.</p>
	<p>Google, Mountain View, California. Spring 2008, Summer 2008 <i>Software Engineering Intern in Google Earth</i> Developed code for automated quality analysis of satellite images in the imagery database group for Google Earth and Google Maps. My mentor was Rodrigo Carceroni.</p>
ACADEMIC EXPERIENCE	<p>The University of North Carolina at Chapel Hill 2013 - 2015 <i>Research Assistant at the Computer Science Department</i> Performed research in visually grounded language and extracting visual meaning from large scale noisy collections of text and images. I worked with my advisor Prof. Tamara L. Berg and Prof. Alexander C. Berg.</p>
	<p>Stony Brook University (SUNY), Stony Brook, New York. 2010 - 2013 <i>Research Assistant at the Vision and Digital Media Lab</i> Large scale analysis of text and images, large scale image classification, language generation and eye gaze data analysis. I was part of the research group of Prof. Tamara L. Berg and also collaborated with Prof. Yejin Choi.</p>
	<p>Center for Information Technologies (ESPOL), Guayaquil, Ecuador. 2006 - 2009 <i>Research Assistant at the Technology Enhanced Learning Group</i> Worked on e-learning and document retrieval under Prof. Xavier Ochoa and also collaborated briefly with Prof. Erik Duval (KU Leuven)</p>
PREPRINTS	<p>Feedback-prop: Convolutional Neural Network Inference under Partial Evidence. Tianlu Wang, Kota Yamaguchi, Vicente Ordonez. arXiv:1710.08049. October 2017. https://arxiv.org/abs/1710.08049</p>
	<p>Where and Who? Automatic Semantic-Aware Person Composition. Fuwen Tan, Crispin Bernier, Benjamin Cohen, Vicente Ordonez, Connelly Barnes. arXiv:1706.01021. June 2017. https://arxiv.org/abs/1706.01021</p>

PUBLICATIONS

Men Also Like Shopping: Reducing Gender Bias Amplification using Corpus-level Constraints . Jieyu Zhao, Tianlu Wang, Mark Yatskar, Vicente Ordonez, Kai-Wei Chang. Empirical Methods on Natural Language Processing. [EMNLP 2017](#). Copenhagen, Denmark. [\(Oral Presentation\)](#) **(Best Long Paper Award)**

Obj2Text: Generating Visually Descriptive Language from Object Layouts . Xuwang Yin, Vicente Ordonez. Empirical Methods on Natural Language Processing. [EMNLP 2017](#). Copenhagen, Denmark. [\(Oral Presentation\)](#)

Commonly Uncommon: Semantic Sparsity in Situation Recognition. Mark Yatskar, Vicente Ordonez, Luke Zettlemoyer, Ali Farhadi. Int. Conf. on Computer Vision and Pattern Recognition. [CVPR 2017](#). Honolulu, Hawaii.

XNOR-Net: ImageNet Classification Using Binary Convolutional Neural Networks. Mohammad Rastegari, Vicente Ordonez, Joseph Redmon, Ali Farhadi. European Conference on Computer Vision. [ECCV 2016](#). Amsterdam, Netherlands. [\(Oral presentation\)](#)

Stating the Obvious: Extracting Visual Common Sense Knowledge. Mark Yatskar, Vicente Ordonez, Ali Farhadi. North American Chapter of the Association of Computational Linguistics. [NAACL 2016](#). short. San Diego, CA [\(Oral presentation\)](#)

Learning to Name Objects. Vicente Ordonez, Wei Liu, Jia Deng, Yejin Choi, Alexander C. Berg, Tamara L. Berg. Communications of the ACM. March 2016. Vol 59, No. 3. [CACM 2016](#). [\(Research Highlight, Invited Paper\)](#)

Large Scale Retrieval and Generation of Image Descriptions. V. Ordonez, X. Han, P. Kuznetsova, G. Kulkarni, M. Mitchell, K. Yamaguchi, K. Stratos, A. Goyal, J. Dodge, A. Mensch, H. Daume III, A.C. Berg, Y. Choi, T.L. Berg. International Journal of Computer Vision. Special Issue on Big Data. [IJCV 2016](#). [\(Journal Paper\)](#)

Predicting Entry-Level Categories. Vicente Ordonez, Wei Liu, Jia Deng, Yejin Choi, Alexander C. Berg, Tamara L. Berg. International Journal of Computer Vision - Marr Prize Special Issue. [IJCV 2015](#). [\(Journal Paper\)](#)

ReferitGame: Referring to Objects in Photographs of Natural Scenes. Sahar Kazemzadeh, Vicente Ordonez, Mark Matten, Tamara L. Berg. Empirical Methods on Natural Language Processing. [EMNLP 2014](#). Doha, Qatar. [\(Oral presentation\)](#)

Learning High-level Judgments of Urban Perception. Vicente Ordonez, Tamara L. Berg. European Conference on Computer Vision. [ECCV 2014](#). Zurich, Switzerland.

TreeTalk: Composition and Compression of Trees for Image Descriptions.
Polina Kuznetsova, Vicente Ordonez, Tamara L. Berg, Yejin Choi.
Transactions of the Association of Computational Linguistics. [TACL 2014](#)
Presented at EMNLP 2014. Doha, Qatar.
([Oral Presentation](#), [Journal Paper](#))

FurnitureGeek: Understanding Fine-Grained Furniture Attributes from Freely Associated Text and Tags. Vicente Ordonez, Vignesh Jagadeesh, Wei Di, Anurag Bhardwaj, Robinson Piramuthu. IEEE Winter Conference on Applications of Computer Vision. [WACV 2014](#). Steamboat Springs, CO

From Large Scale Image Categorization to Entry Level Categories.
Vicente Ordonez, Jia Deng, Yejin Choi, Alexander C. Berg, Tamara L. Berg.
IEEE International Conference on Computer Vision. [ICCV 2013](#). Sidney, Australia.
([Oral presentation](#)) (**Best Paper Award - Marr Prize**)
(Selected for publication in the Research Highlights of the Communications of the ACM Magazine)

Generalizing Image Captions for Image-Text Parallel Corpus.
Polina Kuznetsova, Vicente Ordonez, Alexander C. Berg, Tamara L. Berg, Yejin Choi.
Association for Computational Linguistics. [ACL 2013](#). short.
Sofia, Bulgaria.

Babytalk: Understanding and Generating Image Descriptions.
G. Kulkarni, V. Premraj, V. Ordonez, S. Dhar, S. Li, Y. Choi, A. C. Berg, T. L. Berg.
IEEE Transactions on Pattern Analysis and Machine Intelligence. [TPAMI 2013](#).
([Journal paper](#))

Collective Generation of Natural Image Descriptions.
Polina Kuznetsova, Vicente Ordonez, Alexander C. Berg, Tamara L. Berg, Yejin Choi.
Association for Computational Linguistics. [ACL 2012](#). Jeju, South Korea.
([Oral presentation](#))

Im2Text: Describing Images Using 1 Million Captioned Photographs.
Vicente Ordonez, Girish Kulkarni, Tamara L. Berg.
Neural Information Processing Systems. [NIPS 2011](#). Granada, Spain.
([Spotlight presentation](#))

High Level Describable Attributes for Predicting Aesthetics and Interestingness.
Sagnik Dhar, Vicente Ordonez, Tamara L. Berg.
IEEE Computer Vision and Pattern Recognition. [CVPR 2011](#).
Colorado Springs, CO.

The Ariadne Infrastructure for Managing and Storing Metadata.
S. Ternier, G. Parra, B. Vandeputte, K. Verbert, J. Klerkx, E. Duval, V. Ordonez, X. Ochoa.
Emerging Internet Technologies and Applications for E-learning.
[IEEE Internet Computing 2009](#).
([Journal paper](#))

PATENTS

Techniques for automatic photo album generation. Google Inc.
Vicente Ordonez, Wei Hua, Rodrigo L. Carceroni, Jennifer Gillenwater, Amarnag Subramanya. US Patent No. 8983193. (2015).

Correlating image annotations with foreground features. eBay Inc.
Anurag Bhardwaj, Robinson Piramuthu, Vicente Ordonez, Vignesh Jagadeesh, Wei Di.
US Patent Application No. 20150067471. (2015).

MEDIA
COVERAGE /
PRESS
RELEASES

Researchers Combat Gender and Racial Bias in Artificial Intelligence. Bloomberg. 12/04/2017.
<https://www.bloomberg.com/news/articles/2017-12-04/researchers-combat-gender-and-racial-bias-in-artificial-intelligence>

Home robots will turn into crude sexists, experts warn. The Times of London. 08/23/2017.
<https://www.thetimes.co.uk/article/home-robots-will-turn-into-crude-sexists-experts-warn-gnmj09rgq>

Machines Taught by Photos Learn a Sexist View of Women. WIRED. 08/21/2017.
<https://www.wired.com/story/machines-taught-by-photos-learn-a-sexist-view-of-women/>

Beyond Silicon: Squeezing More Out of Chips. The New York Times. 10/30/2016.
<http://www.nytimes.com/2016/10/31/technology/beyond-silicon-squeezing-more-out-of-chips.html>

Artificial Intelligence at Your Fingertips. University of Washington CSE News. 10/30/2016.
<https://news.cs.washington.edu/2016/10/31/uw-cse-and-ai2-in-the-new-york-times-artificial-intelligence-at-your-fingertips/>

A Powerful Legacy and a Bright Future in the Digital Humanities. UVA Today. 10/13/2016.
<https://www.news.virginia.edu/content/powerful-legacy-and-bright-future-digital-humanities>

INVITED
TALKS

Investigación en Reconocimiento Visual Artificial	
Universidad Técnica de Machala (UTM), Machala, Ecuador.	May 2017
Universidad de Cuenca (UC), Cuenca, Ecuador.	May 2017
Vision, Language and Perception.	October 2016
Digital Humanities Conference at the University of Virginia – DH@UVA	
Language and Perceptual Categorization in Computer Vision.	
Toyota Technological Institute at Chicago TTI-C	April 2015
Hosted by Prof. Greg Shakhnarovich.	
Allen Institute for Artificial Intelligence AI2, Seattle, Washington	March 2015
Hosted by Prof. Ali Farhadi.	
California Institute of Technology (Caltech), Pasadena, California	March 2015
Hosted by Prof. Pietro Perona.	
Carnegie Mellon University, The Robotics Institute VASC Seminar Series	February 2015
Hosted by Prof. Abhinav Gupta.	
Disney Research Pittsburgh, The Walt Disney Company.	January 2015
Hosted by Senior Research Scientist Leonid Sigal.	
Stanford University, Department of Computer Science, Vision Group.	December 2014
Hosted by Prof. Fei-fei Li.	
Integrating Vision and Language.	
University of Virginia, Computer Science Dept. Charlottesville, Virginia	March 2015
Virginia Tech, Computer Science Dept., Blacksburg, Virginia	March 2015
Drexel University, Computer Science Dept. Philadelphia, Pennsylvania	February 2015

Learning High-level Judgments of Urban Perception. September 2014
 ECCV 2014 Workshop on Storytelling with Images and Videos. ETH Zurich
 ECCV 2014 Workshop on Human-Machine Communication for Visual Recognition. ETH Zurich

Understanding Image Descriptions in the Wild. July 2013
 Yahoo! Labs, Sunnyvale, California.
 Hosted by Research Scientist Amit Goyal.

Data-driven Generation of Image Descriptions. June 2013
 North American Chapter of the Association for Computational Linguistics (NAACL)
 Workshop on Vision and Language (WVL) 2013. Atlanta, GA

STUDENTS AND ADVISEES

Tianlu Wang, <i>PhD Student</i>	Fall 2016 - present
Xuwan Yin, <i>PhD Student</i>	Fall 2016 - present
Ziyan Yang, <i>PhD Student (as rotation advisor)</i>	Fall 2017 - present
Fuwen Tan, <i>PhD Student (as temporary advisor)</i>	Fall 2017 - present
Fengyang Zhang, <i>MSc Student</i>	Spring 2018 - present
Abhimanyu Banerjee, <i>MSc Student</i>	Spring 2017 - present
Anudeep Konda, <i>MSc Student</i>	Fall 2017 - present
KS Sivaraman, <i>MSc Student</i>	Spring 2017 - Fall 2017
Vijay Edupuganti, <i>Undergrad Student Capstone Project</i>	Fall 2017
Arun Kannan, <i>Undergrad Student Capstone Project</i>	Fall 2017
Shijia Wang, <i>Undergrad Student</i>	Summer 2017
Nova Zhang, <i>Undergrad Student</i>	Spring 2017
Divya Bhaskhara, <i>Undergrad Student Capstone Project</i>	Fall 2016
Rosangel Garcia, <i>CRA-DREU Visting Student – Le Moyne College</i>	Summer 2017
Ian K. Torres, <i>CRA-DREU Visting Student – UMass Amherst</i>	Summer 2017

TEACHING EXPERIENCE

Instructor.

Introduction to Computer Vision. University of Virginia. Spring 2018
 Course website: <http://www.cs.virginia.edu/~vicente/vision>
 Undergraduate Class: 94 students registered

Computational Visual Recognition. University of Virginia. Fall 2017
 Course website: <http://www.cs.virginia.edu/~vicente/recognition>
 Graduate Class: 78 students
 13 PhD (6 CS + 3 Civil Eng + 2 ECE + 1 SysEng + 1 Physics), 31 CS MS, 13 ECE MS, 5 SysEng MS, 3 Data Science MS, 1 ME Mech&Aerospace, 1 MS Chem, 1 MS BioMed, 9 BA/BSc, 1 Non-degree.
 Course Rating: 4.49/5.0 (Mean is 4.35 for 6000-level engineering classes)

Vision and Language. University of Virginia Spring 2017
 Course website: <http://www.cs.virginia.edu/~vicente/vislang>
 Advanced Graduate Class: 32 students
 7 CS PhD, 9 CS MS, 3 SysEng MS, 11 Data Science MS, 2 CS BSc
 Course Rating: 4.63/5.0 (Mean is 4.37 for 6000-level engineering classes)

Computational Visual Recognition. University of Virginia. Fall 2016
 Course website: <http://www.cs.virginia.edu/~vicente/recognition/2016>
 Graduate Class: 36 students
 6 PhD (4 CS + 1 BioMed + 1 Stats), 16 CS MS, 4 MEng, 4 Data Science MS, 6 CS BSc
 Course Rating: 4.62/5.0 (Mean is 4.36 for 6000-level engineering classes)

Teaching Assistant.

Foundations of Computer Science. Stony Brook University. 2009-2010
 Object Oriented Programming. Escuela Superior Politécnica del Litoral, Ecuador. 2005
 Introduction to Programming. Escuela Superior Politécnica del Litoral, Ecuador. 2004
 Physics for Engineering. Escuela Superior Politécnica del Litoral, Ecuador. 2004

Guest Lectures.

Introduction to Computer Vision. University of Virginia February 2017
 Language and Vision. University of North Carolina at Chapel Hill. February 2015
 Computer Vision. University of North Carolina at Chapel Hill. November 2014
 Artificial Intelligence. University of North Carolina at Chapel Hill. January 2014
 Advanced Multimedia. Stony Brook University. April 2013
 Computational Photography. Stony Brook University. March 2013

OTHER
ACTIVITIES

Lead Organizing Committee.

CVPR Workshop on Large Scale Visual Recognition and Retrieval *BigVision* 2016
 University of Virginia's Human and Machine Intelligence Seminar (with Prof. Paul Humphreys)
 University of Virginia's Computer Vision Seminar (with my PhD students)
 Stony Brook University Computer Science Graduate Research Conference 2010

Member of Expert Panel.

FWO - Flanders Research Foundation, Belgium, 2017

Area Chair.

Vision, Robotics, and Other Grounding. Annual Conference of the North American Chapter of the Association for Computational Linguistics (NAACL) 2018.

Program Committee.

NAACL Workshop on New Forms of Generalization in Deep Learning 2018
 ICCV Workshop on Closing the Loop Between Vision and Language 2015, 2017
 ICCV Workshop on Web-scale Vision and Social Media 2015, 2017
 NIPS Workshop on Efficient Methods for Deep Neural Networks 2016
 ECCV Workshop on Web-scale Vision and Social Media 2016
 EMNLP Workshop on Vision and Language 2015
 ECCV Workshop on Storytelling with Images and Videos - *VisStory* 2014
 ECCV Workshop on Human-Machine Communication for Visual Recognition 2014

Reviewer.

Conference on Computer Vision and Pattern Recognition (CVPR) 2015 - 2018
 International Conference on Computer Vision (ICCV) 2015 - 2017
 Association for Computational Linguistics (ACL) 2014, 2016, 2017
 Empirical Methods in Natural Language Processing (EMNLP) 2015, 2017
 IEEE Transactions on Pattern Analysis and Machine Intelligence (TPAMI) 2014 - 2017
 International Joint Conference in Artificial Intelligence (IJCAI) 2016
 International Journal of Computer Vision (IJCV) 2014 - 2016
 Neural Information Processing Systems (NIPS) 2016
 European Conference on Computer Vision (ECCV) 2016
 Asian Conference on Computer Vision (ACCV) 2016
 Int'l Conference on Computer Graphics and Interactive Techniques (SIGGRAPH) 2016
 North American Chapter of the Association for Computational Linguistics (NAACL) 2016

IEEE Transactions on Multimedia (TM) 2013, 2016.
Elsevier Computer Vision and Image Understanding (CVIU) 2014, 2015
Elsevier Information Processing Letters (IPL) 2014
IEEE Transactions on Neural Networks and Learning Systems (TNNLS) 2014
IEEE Transactions on Image Processing (TIP) 2013.
ACM Multimedia (MM) 2010. International Multimedia Conference.