DAVID VAZQUEZ

Director of AI Research @ ServiceNow Research

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Research Interests: Artificial Intelligence • AI Agents • Multimodal Learning • Computer Vision • Machine Learning

EDUCATION

Ph.D. in Computer Science
UAB University
2010 – 2013 | Barcelona, Spain

Advisor: Prof. Antonio M. López

Thesis: *Domain Adaptation of Virtual and Real Worlds for Pedestrian Detection*

M.Sc. in Computer Vision and AI
UAB University
2009 – 2010 | Barcelona, Spain

Advisors: Prof. Antonio M. López

Thesis: *The effect of the distance in Pedestrian Detection*

B.Sc. in Computer Engineering
UAB University
2006 – 2009 | Barcelona, Spain

Advisors: Prof. Antonio M. López

Thesis: *Intrusion Detection in Intelligent Surveillance Systems*

B.Sc. in Systems Computer Engineering
UDC University
2002 – 2006 | A Coruña, Spain

Advisors: Prof. Enrique Cabello

Thesis: *Face Recognition in Madrid Barajas Airport*

INTERNSHIPS

PhD internship at Daimler AG - Mercedes Benz	2011-2012	Ulm, Germany
Undergrad internship at Davantis	2008-2009	Barcelona, Spain
Undergrad internship at URJC	2004-2006	Madrid, Spain
Undergrad internship at UAM	2004-2005	Madrid, Spain

LANGUAGES

English (Fluent) • French (Intermediate) • Spanish (Native) • Galician (Native) • Catalan (Intermediate)

ACADEMIC EXPERIENCE

Adjunct Professor
Polytechnique de Montreal (Poly)
2025 – Present | Montreal, QC

Research. Leading research on Indigenous language translation, supervising doctoral students, and engaging in teaching activities.

Associate Industry Member
MILA, Quebec AI Institute
2025 – Present | Montreal, QC

Research. Affiliated with MILA through Polytechnique Montréal, contributing to collaborative research in multimodal learning and AI agents.

Adjunct Professor

Autonomous University of Barcelona (UAB)

2017 – Present | Barcelona, Spain

Teaching. Instructor in the Computer Vision Master's program, teaching graduate courses and supervising Master's theses, several of which led to PhD studies in Montreal. Contributed to program development by:

- Providing student access to GPU computing resources.
- Recommending new instructors and revising course curricula.
- Fostering academic exchange with the Montreal AI research community.

Postdoctoral Researcher

Montreal Institute of Learning Algorithms (MILA) / UAB

2015 – 2017 | Montreal, QC / Barcelona, Spain

Research. Focused on deep learning for image generation and semantic segmentation under the supervision of **Prof. Aaron Courville** and **Prof. Antonio M. López**.

- Conducted foundational research on deep learning models for image generation and segmentation.
- Completed a one-year residency in Montreal specializing in emerging deep learning methodologies.
- Disseminated deep learning expertise within the European research community during a second year at UAB.
- Awarded the prestigious **Marie Curie European Fellowship**.

Teaching. Co-designed the Inter-University Master's in Computer Vision & AI curriculum in Barcelona.

- Collaborated with **Prof. Maria Vanrell** to integrate deep learning and modern AI techniques into the program.
- Recruited professors from the Montreal AI ecosystem to develop course materials and deliver lectures.
- Helped position the program at the forefront of AI education in Europe.

Postdoctoral Researcher

Autonomous University of Barcelona (UAB) / Computer Vision Center (CVC)

2013 – 2015 | Barcelona, Spain

Research. Led projects on autonomous driving technologies, including the Elektra autonomous vehicle and the Synthia simulator, under the supervision of Prof. Antonio M. López and supported by the Juan de la Cierva postdoctoral grant.

Elektra Autonomous Vehicle Project.

- Initiated and led the development of an experimental autonomous vehicle platform.
- Secured partnerships with **Tazzari** (vehicle integration) and **NVIDIA** (prototype hardware).
- Designed custom hardware integrations for cameras, GPS, and onboard systems.
- Supervised multidisciplinary teams on perception, planning, vehicle control, and GPU-accelerated vision algorithms.
- Developed sensor fusion algorithms combining GPS, IMU, and vision for localization.
- Delivered a fully functional platform used as a research hub for multiple academic projects.

Synthia Autonomous Driving Simulator.

- Proposed and developed a simulated environment based on a video game engine to train and validate computer vision algorithms for autonomous driving.
- Extended the simulation framework to include perception, control, and localization modules.
- Accelerated research cycles through safe, rapid experimentation in simulation before real-world deployment.

Teaching. Assisted in teaching undergraduate courses on artificial intelligence and software design.

INDUSTRY EXPERIENCE

Director of Research

ServiceNow Research

2023 – Present | Montreal, QC

Leadership and Research. Member of the ServiceNow Research leadership team and head of the **Fundamental AI Research group**, advancing research in *multimodal learning*, *web agents*, *reasoning*, and *data analytics*.

- Lead a team of **20+ full-time researchers** managing independent projects.
- Supervise **30+ interns annually**, in collaboration with institutions such as Polytechnique Montréal, McGill, and Université de Montréal.
- Maintain a strong academic publication record in top-tier venues: NeurIPS, ICLR, ACL/EMNLP, ICML, CVPR.
- Filed patents on innovations in *knowledge hypergraphs*, *anomaly detection*, *low-data learning*, and *automated image style transfer*.

Research Manager / Research Lead

ServiceNow Research

2021 – 2023 Montreal, QC

Team Leadership and Research. Led the *Low Data Learning* team at Element AI and subsequently at ServiceNow following the acquisition.

- Directed a team of **5 full-time researchers** and **15 interns annually**.
- Focused on *self-supervised*, *semi-supervised*, *weakly-supervised learning*, and *domain adaptation*.
- Delivered approximately **20 peer-reviewed publications and several patents per year**.

Research Scientist, then Research Team Lead

Element AI

2018 – 2021 Montreal, QC

Research. Contributed to a broad range of computer vision and AI projects, including:

- *Semantic and instance segmentation*, *object counting*, *weakly supervised learning*, *image generation*, *domain adaptation*, *continual learning*, and *explainability*.
- Published extensively in leading conferences: CVPR, ICCV, NeurIPS, IJCV, ECCV, WACV.
- Promoted to Research Team Lead in 2020; team and projects transitioned to ServiceNow following the acquisition in 2021.

Mentorship. Supervised multiple research interns, fostering hands-on experience and co-authoring conference papers.

ACADEMIC SERVICE

Organizer

GoodData: Good Data for Generative AI	2025	AAAI
L3D-IVU: Learning with Limited Labelled Data	2022-2023	CVPR
CLVision: Continual Learning in Comp. Vision	2020-2023	CVPR
GroundedML: Anchoring ML in Algorithmic Theory	2022	ICLR
TASK-CV: Transf. and Adapt Src Knowledge in CV	2014-2021	ICCV/ECCV
3D-WiDGET: Deep GEneraTive models for 3D	2019-2020	CVPR
WAD: Workshop of Autonomous Driving	2018-2021	CVPR
CVVT: CV in Vehicular Technology	2014-2017	ECCV/CVPR
VARVAI: Virtual/Augmented Reality for Visual AI	2016	ECCV
IbPRIA: Iberian Conf. on Patt. Recognition and IA	2015	IbPRIA
SUAS: Scene Understanding for Autonomous Systems	2014	ACCV
ACMCV: Annual Catalan Meeting in CV	2014	CVC
CVCRD: Computer Vision Trends and Challenges	2013-2014	CVC

Reviewer and Area Chair

Machine Learning. ICLR (2019-Now), NeurIPS (2019-Now), ICML (2021-Now), TMLR (2023-2024)
Computer Vision. CVPR (2014-Now) ECCV (2016-Now), ICCV (2015-Now), WACV (2020-2024)
Natural Language Processing. ACL (2023-2025)

Boards

NSERC Technology Access Center Grants	2025-Now	NSERC TAC

Inclusive Tech Advisory Board — 2025-Now — QueerTech
ELLIS: European Lab. for Learning and Intelligent Systems — 2019-Now — ELLIS

Mentor

Theker — 2023-Now — Barcelona, Spain
BuildCheck — 2024-Now — Montreal, QC
WiML Workshop at NeurIPS — 2024 — Vancouver, BC

GRANTS, SCHOLARSHIPS, AWARDS

Scholarships

Postdoctoral research grant
Marie Curie — 2016-2017 — UdeM and UAB

Postdoctoral research grant
Juan de la Cierva — 2015-2016 — UAB

Doctoral research grant
Personal Investigador en Formacion (PIF) — 2008-2012 — UAB

Undergrad grant
Sicue-Seneca — 2005-2006 — URJ

Undergrad grant
Sicue-Seneca — 2004-2005 — UAM

Awards

CVPR Workshop
The One Hundred Layers Tiramisu — 2017 — CVPR

Best Paper Award
Real-time Pedestrian Detection in the GPU — 2016 — NVIDIA GTC

Best PhD Thesis Award
PIONEER Awards — 2014 — Barcelona, Spain

Best PhD Thesis Award
IEEE ITS Society — 2014 — Barcelona, Spain

Best PhD Thesis Award
AERFAI — 2014 — Barcelona, Spain

Best PhD Thesis Award
UAB — 2014 — Barcelona, Spain

Second position in Pedestrian Detection Challenge
RMRC Challenge — 2014 — ECCV

Winner of the Pedestrian Detection Challenge
RMRC Challenge — 2013 — ICCV

Best paper award at Domain Adaptation Workshop
Cool world: domain adaptation of virtual and real worlds... — 2011 — NeurIPS

ICMI Doctoral Consortim award
Virtual Worlds and Active Learning for Human Detection — 2011 — ICMI

TEACHING

Machine Learning for Computer Vision (4.5h, Master) — **Instructor** — 2015-2025 — UAB
Object Detection (300h) — **Assistant** — 2015-2016 — Coursera

Image Classification (300h)	**Assistant**	2015-2016	Coursera
Software Design (136h, Undergrad)	**Instructor**	2014-2015	UAB
Machine Learning for Computer Vision (4.5h, Master)	**Instructor**	2014-2015	UAB
Comp. Engineering Final Project (7.5h, Undergrad)	**Instructor**	2013-2014	UAB
Machine Learning for Computer Vision (2.74h, Master)	**Instructor**	2013-2014	UAB
Intro to Computer Vision and ML (19.29h, Master)	**Instructor**	2012-2013	UAB
Artificial Intelligence I (27.43h, Undergrad)	**Instructor**	2011-2012	UAB
Artificial Intelligence I (18h, Undergrad)	**Instructor**	2010-2011	UAB
Artificial Intelligence II (65h, Undergrad)	**Instructor**	2009-2010	UAB
Artificial Intelligence II (50h, Undergrad)	**Instructor**	2008-2009	UAB

Teaching Materials

MOOC: Object Detection **Coursera (with A. López, E. Valveny, M. Vanrell)**	2015	UAB
MOOC: Image Classification **Coursera (with A. López, E. Valveny, M. Vanrell)**	2015	UAB
Master's Practice Materials **Online (with D. Gerónimo)**	2014	UAB
Master's Theory Materials **Online (with D. Gerónimo)**	2012	UAB
Artificial Intelligence I: Practice Materials **Online (with J. Bernal)**	2010	UAB
Artificial Intelligence II: Practice Materials **Online (with J. Bernal)**	2008	UAB

STUDENT & INTERN SUPERVISION

I have also supervised PhD, Master and undergraduate thesis in the university at Barcelona during my postdoc and as adjunct professor. I supervise graduate intern students at ServiceNow.

PhD Thesis supervision

Daniel H. Juarez	UAB	2015-2020	CUDA 3D Perception	ML Compiler Engineer at AMD
Zhijie Fang	UAB	2014-2017	Pedestrian Intention	Prof. NUS
Alejandro González	UAB	2013-2015	Pedestrian Detection	Prof. at LaSalle

MSc Thesis supervision

Marco Terral	UAB	2024-2025	SVG Generation	
Jia Quian	UPC	2022-2023	LLM Robot Control	Founder of Thecker
Juan A. Rodriguez	UPF	2021-2022	Figure Generation	PhD student with Chris Pal
Oscar Mañas	UAB	2020-2021	Remote Sensing	PhD UdeM, META AI
J.L. Gómez Zurita	UAB	2016-2017	Domain Adaptation	Ph.D. at CVC
Axel Barroso	UAB	2016-2017	Keypoint Detection	RS at Niantic
Eugenio Alcalá	UPC	2015-2016	Control and Planning	CEO of SeaX AI
Gabriel Villalonga	UAB	2014-2015	3D Mapping	RS CVC
Manuel Granados	UAB	2013-2014	Scene Understanding	Dev at Leadtech
Sebastian Ramos	UAB	2012-2014	Scene Understanding	CEO at Tensoreye

Undergrad Thesis supervision

J. Materzynska	UAB	2015-2016	Data Generation	PhD student at MIT
Alexander Shubin	UAB	2014-2015	Vehicle Simulator	
Jordi Frías	UAB	2014-2015	Autonomous Driving	
Sergi Canyameres	UAB	2014-2015	Object Detection	PO at Continental
Javier Gómez	UAB	2014-2015	Road Lane Detection	
Laura Sellar	UAB	2014-2015	Data Generation	Software Architect Jr. in Applus+
Gabriel Villalonga	UAB	2014-2015	3D Pedestrian Det.	PostDoc CVC
Victor Campmany	UAB	2014-2015	CUDA Object Detect	RE at Svarmony
Alejandro D. Noel	Salle	2013-2015	Autonomous Driving	Founder of Stealth Startup
Andrea Álvarez	UAB	2013-2014	3D Semantic Segm.	
Javier D. Sierra	Salle	2013-2014	Driver Monitoring	
Gerard Clotet	UAB	2013-2014	ROS Autonom. Driving	
Jordi Frías	UAB	2013-2014	3D Road Estimation	
Andrea Alvarez	UAB	2013-2014	3D Semantic Segm.	
Gerard Clotet	UAB	2013-2014	ROS Autonom. Driving	

PhD Intern Supervision at ServiceNow

Zichao Li	McGill	Siva Reddy	2024-2025	Multimodal Learning	
Tianyu Zhang	UdeM	Yoshua Bengio	2024-2025	Multimodal Learning	
Suyuchen Wang	UdeM	Bang Liu	2024-2025	Multimodal Learning	
Rabiul Awal	UdeM	A. Agrawal	2024-2025	Multimodal Learning	
Xiangru Jian	UW	Tamer Özsu	2024-2025	Multimodal Learning	
Mahsa Massoud	McGill	S. Ravanbakhsh	2024-2025	Multimodal Learning	
Ahmed Masry	UYork	Enamul Hoque	2024-2025	Multimodal Learning	
A. Abaskohi	UBC	G. Carenini	2024-2025	Data Analytics	
Léo Boisvert	PolyMtl	Quentin Cappart	2024-2025	WebAgents	
Shubham Agarwal	PolyMtl	Chris Pal	2023-2024	LLMs	Krutrim AI
Megh Thakkar	MILA	Sarath Chandar	2023-2024	WebAgents	RE ServiceNow
Abhay Puri	PolyMtl	Chris Pal	2023-2024	Multimodal Learning	RE ServiceNow
Nicholas Botzer	NDame	Tim Weninger	2023-2024	Low Data Learning	DS Protagonist
Christos Tsirigotis	UdeM	Aaron Courville	2022-2023	Bias Robust Learning	
Ch. Guille-Escuret	UdeM	Ioannis Mitliagkas	2021-2023	Self-supervision	
Bahare Fatemi	UBC	David Poole	2019-2023	Knowledge Graphs	RS at Google
Nicolas Gontier	PolyMtl	Chris Pal	2022-2023	Reinforcement Learn	RS ServiceNow
Chris Beckham	PolyMtl	Chris Pal	2021-2023	Image Generation	RS Vopemed
Shengchao Liu	UdeM	Jian Tang	2022-2023	Relational Databases	Postdoc UC Berkeley
Sai Rajeswar	UdeM	Aaron Courville	2020-2023	Image Generation	RS ServiceNow
Rim Assouel	UdeM	Yoshua Bengio	2021-2022	Object Detection	Postdoc YorkU
Jonathan Pilaut	PolyMtl	Chris Pal	2021-2022	Knowledge Graphs	RS Wand AI
Massimo Caccia	HEC	Laurent Charlin	2020-2022	Continual Learning	RS ServiceNow
Gabriel Huang	UdeM	S. Lacoste-Julien	2021-2022	Object Detection	RS ServiceNow
Gaurav Sahu	UW	Olga Vechtomova	2021-2022	Low Data Learning	Postdoc PolyMtl
Benoit Corsini	McGill	L. Addario-Berry	2020-2021	Graphs	

Pau Rodríguez	UAB	Jordi Gonzalez	2020-2021	Low Data Learning	RS Apple
Fabrice Normandin	MILA	Irina Rish	2020-2021	Continual Learning	MLDev MILA
Issam H. Laradji	UBC	Mark Schmidt	2017-2020	Low Data Learning	RS ServiceNow
S. Mounsaveng	ETS	Marco Pedersoli	2018-2020	Data Augmentation	Evident Scientific
Oleksiy Ostapenko	UdeM	Laurent Charlin	2019-2020	Continual Learning	RS ServiceNow
Mattie Tesfaldet	McGill	Chris Pal	2018-2019	Style Transfer	
Guillem Cucurull	UAB	Jordi Gonzalez	2018-2019	Graph Neural Nets	RS Meta AI

Intern Supervision at University

Chris H. Bahnsen	Aalborg	T.B. Moeslund	2016-2017	Rain Removal	MLDev Ambolt AI
Azadeh Mozafari	Sharif U	Mansour Jamzad	2015-2016	Domain Adaptation	Postdoc U Toronto

INVITED TALKS, PANELS, AND DEMOS

Invited Talks

Generative Models in Computer Vision	**Georgian**	May 2021	Toronto, Canada
Low Data Learning in Computer Vision	**USC**	Apr 2021	Santiago, Spain
AI 101: Introduction to AI	**SalesForce**	Jun 2020	Montreal, Canada
GCNN for Compatibility Prediction	**ETS**	Apr 2019	Montreal, Canada
The SYNTHIA dataset	**CVPR Traffic Surv. Workshop**	Jul 2017	Honolulu, USA
Self-Driving & Deep Learning	**AI for Data Mining & Big Data**	Apr 2017	Spain
The SYNTHIA Dataset	**Zoox**	Jul 2016	San Francisco, USA
Learning to See in a Virtual World	**Alcalá University**	Nov 2015	Madrid, Spain
GPU optimization for Autonomous Driving	**Work. TELSEA**	Feb 2016	Madrid, Spain
Autonomous Vehicles	**Pint of Science**	Apr 2015	Barcelona, Spain
ADAS and Autonomous Vehicles	**ST Dynamics**	Nov 2014	Singapore
Pedestrian Detection	**Samsung Research**	Jun 2014	Poland
Domain Adaptation for Pedestrian Detection	**FRAV - URJC**	Oct 2013	Madrid, Spain
Domain Adaptation for Pedestrian Detection	**Daimler**	Oct 2013	Germany
3D Semantic Maps	**University of Zaragoza**	Nov 2013	Zaragoza, Spain

Demos

Elektra Autonomous Vehicle	**At UAB for NVIDIA**	2016	Barcelona, Spain
Elektra Autonomous Vehicle	**Catalan Government**	2016	Barcelona, Spain
Autonomous Vehicle Simulator	**CVPR**	2016	Las Vegas, USA
Autonomous Vehicle Simulator	**NOVUM Science feast**	2015	Barcelona, Spain
Autonomous Vehicle Simulator	**Nit de la recerca**	2015	Barcelona, Spain
Autonomous Vehicle Simulator	**CERCA**	2015	Barcelona, Spain
Autonomous Vehicle Simulator	**MEMEnginy Science feast**	2015	Barcelona, Spain
3D Pedestrian Detection	**ECCV**	2015	Barcelona, Spain
3D Pedestrian Detection	**MEMEnginy Science feast**	2014	Barcelona, Spain
3D Pedestrian Detection	**IbPRIA**	2015	Santiago, Spain
3D Pedestrian Detection	**Saló del Ensenyament**	2015	Barcelona, Spain

Pedestrian Detection	**BMVC**	2013	UK
Pedestrian Detection	**NOVUM Science feast**	2013	Barcelona, Spain
Pedestrian Detection	**MIPRCV Industry day**	2013	Barcelona, Spain
Pedestrian Detection	**Expoelectric Formula-E**	2012	Barcelona, Spain
Pedestrian Detection	**Mobility in Smart Cities**	2012	Barcelona, Spain

News in the Media

Tech Can Help to Reduce Human Error	**Televisión de Catalunya (TV3)**	2013	Barcelona, Spain
Eco-Driver Project in the News	**Barcelona TV (BTV)**	2013	Barcelona, Spain
Eco-Driver Project in the News	**Euscal Telebista (ETB)**	2013	Bask Country, Spain
Face Recognition at Madrid-Barajas Airport	**Antena3**	2006	Madrid, Spain

FUNDED RESEARCH PROJECTS

Multimodal AI Translation Tools for Indigenous Languages
NSERC Discovery Grant — D. Vázquez — 2025-2030 — Polytechnique Montréal

Generative AI technologies: Towards a cognitive assistant for everyone
Mitacs Umbrella — D. Vázquez & M.E. March. — 2024-2026 — ServiceNow

Multiple Mitacs interns
Mitacs Accelerate — D. Vázquez — 2019-2024 — ElementAI/ServiceNow

ACDC: Autonomous Cooperative Drivers in the City
MICIN (TRA2014-57088-C2-1-R) — A. M. López & D. Vázquez — 2014-2015 — UAM

Creation of Open and Massive Online Courses
AGAUR (2014MOOC00022) — Ernest Valveny — 2014-2015 — UAM

MAPEA2: Usual Movement of Pedestrians: Study to Prevent Run-overs
Dirección General de Tráfico (2014DGT) — Antonio M. López — 2014-2015 — UAM

FireWATCHER: Fire Warning by Aerial Terrain Control of Hot Embers Regions
MICIN (TIN2011-29494-C03-02) — Daniel Ponsa — 2012-2015 — UAM

ViDAS-Road: Vision-based Driver Assistance Systems for Road Safety
MICIN (TRA2011-29454-C03-00-00) — Antonio M. López — 2012-2015 — UAM

Multimodal Interaction in Pattern Recognition and Computer Vision
MICIN (CSD200700018) — Antonio, Enrique Vidal — 2008-2012 — UAM

Computer vision-based detection and tracking of vehicles and pedestrians for ADAS
MICIN (TRA2007-62526/AUT) — Antonio M. López — 2008-2010 — UAM

Co-DRIVERS: Cooperative Driver and Road Intelligent Visual Exploration for Route Safety
MICIN (TRA2010-21371-C03-01) — Antonio M. López — 2008-2010 — UAM

ViDAS-Road: Vision-based Driver Assistance for Road Safety
MICIN (TRA2010-21371-C03-01) — Antonio M. López — 2008-2010 — UAM

TECHNOLOGICAL TRANSFER PROJECTS

SYNTHIA: Aut. Driving Simulator
Intel, Audi, Huawei, et al. — D. Vazquez & A.M. López — 2016-2017 — USA-Germany-China-Spain

Road Condition Analysis
Applus+ IDIADA — D. Vazquez & A.M. López — 2016 — Spain-Japan

Detection of Pedestrian Hazard Situations in Urban Areas II
Applus+ IDIADA & Toyota — D. Vazquez & A.M. López — 2014-2015 — Spain-Japan

Road Object Detection

Samsung	D. Vazquez & A.M. López	2014	Poland
Detection of Pedestrian Hazard Situations in Urban Areas I			
Applus+ IDIADA & Toyota	D. Vazquez & A.M. López	2013-2014	Spain-Japan
Computer Vision Services			
Volkswagen-Seat	A.M. López	2013	Spain-Germany
3D Assistance System for Dental Implant			
Galimplant	J.M. Álvarez	2009	Spain

SELECTED PUBLICATIONS

For a full list of publications, please refer to Google Scholar

Recent Submissions

[1] R. Pardinas, E. Kamalloo, **D. Vazquez**, and A. Drouin, *Apriel-reasoner: Rl post-training for general-purpose and efficient reasoning*, 2026.

[2] J. Rodriguez, H. Zhang, A. Puri, T. Zhang, R. Pramanik, M. Lin, X. Xie, M. Terral, D. Kaushik, A. Shariff, *et al.*, *Vectorgym: A multitask benchmark for svg code generation, sketching, and editing*, 2026.

[3] M. Terral, H. Zhang, T. Zhang, M. Lin, X. Xie, H. Dai, D. Kaushik, P. Peng, N. Scharpff, **D. Vazquez**, *et al.*, *Wildsvg: Towards reliable svg generation under real-word conditions*, 2026.

Conference Proceedings

[4] P. Bechard, C. Wang, A. Abaskohi, J. Rodriguez, C. Pal, **D. Vazquez**, S. Gella, S. Rajeswar, and P. Taslakian, "Starflow: Generating structured workflow outputs from sketch images," in *Conference of the European Chapter of the Association for Computational Linguistics (EACL)*, 2026.

[5] R. Awal, M. Massoud, Z. Li, A. Feizi, S. Wang, C. Pal, A. Agrawal, **D. Vazquez**, S. Reddy, J. A. Rodriguez, *et al.*, "Webmmu: A benchmark for multimodal multilingual website understanding and code generation," in *Conference on Empirical Methods in Natural Language Processing (EMNLP)*, 2025.

[6] A. Feizi, S. Nayak, X. Jian, K. Q. Lin, K. Li, R. Awal, X. H. Lù, J. Obando-Ceron, J. A. Rodriguez, N. Chapados, *et al.*, "Grounding computer use agents on human demonstrations," in *International Conference on Learning Representations (ICLR)*, 2025.

[7] A. Masry, A. Puri, M. Hashemi, J. A. Rodriguez, M. Thakkar, K. Mahajan, V. Yadav, S. T. Madhusudhan, A. Piché, D. Bahdanau, *et al.*, "Bigcharts-r1: Enhanced chart reasoning with visual reinforcement finetuning," in *Conference On Language Modeling (COLM)*, 2025.

[8] A. Masry, J. A. Rodriguez, T. Zhang, S. Wang, C. Wang, A. Feizi, A. K. Suresh, A. Puri, X. Jian, P.-A. Noël, *et al.*, "Alignvlm: Bridging vision and language latent spaces for multimodal understanding," in *Conference on Neural Information Processing Systems (NeurIPS)*, 2025.

[9] S. Nayak, X. Jian, K. Q. Lin, J. A. Rodriguez, M. Kalsi, R. Awal, N. Chapados, M. T. Özsu, A. Agrawal, **D. Vazquez**, *et al.*, "Ui-vision: A desktop-centric gui benchmark for visual perception and interaction," in *International Conference on Machine Learning (ICML)*, 2025.

[10] J. Rodriguez, X. Jian, S. S. Panigrahi, T. Zhang, A. Feizi, A. Puri, A. Kalkunte, F. Savard, A. Masry, S. Nayak, *et al.*, "Bigdocs: An open and permissively-licensed dataset for training multimodal models on document and code tasks," in *International Conference on Learning Representations (ICLR)*, 2025.

[11] J. A. Rodriguez, S. Agarwal, I. H. Laradji, P. Rodriguez, **D. Vazquez**, C. Pal, and M. Pedersoli, "Starvector: Generating scalable vector graphics code from images," in *Computer Vision and Pattern Recognition (CVPR)*, 2025.

[12] J. A. Rodriguez, H. Zhang, A. Puri, A. Feizi, R. Pramanik, P. Wichmann, A. Mondal, M. R. Samsami, R. Awal, P. Taslakian, *et al.*, "Rendering-aware reinforcement learning for vector graphics generation," in *Conference on Neural Information Processing Systems (NeurIPS)*, 2025.

[13] A. Drouin, M. Gasse, M. Caccia, I. H. Laradji, M. Del Verme, T. Marty, L. Boisvert, M. Thakkar, Q. Cappart, **D. Vazquez**, *et al.*, "Workarena: How capable are web agents at solving common knowledge work tasks?" In *International Conference on Machine Learning (ICML)*, 2024.

[14] C. Guille-Escuret, P. Rodriguez, **D. Vazquez**, I. Mitliagkas, and J. Monteiro, "Cadet: Fully self-supervised out-of-distribution detection with contrastive learning," in *Advances in Neural Information Processing Systems (NeurIPS)*, 2024.

[15] A. Lacoste, N. Lehmann, P. Rodriguez, E. Sherwin, H. Kerner, B. Lütjens, J. Irvin, D. Dao, H. Alemohammad, A. Drouin, *et al.*, "Geo-bench: Toward foundation models for earth monitoring," in *Advances in Neural Information Processing Systems (NeurIPS)*, 2024.

[16] J. Monteiro, P.-A. Noel, E. Marcotte, S. Rajeswar, V. Zantedeschi, **D. Vazquez**, N. Chapados, C. Pal, and P. Taslakian, "Repliqa: A question-answering dataset for benchmarking llms on unseen reference content," in *Conference on Neural Information Processing Systems (NeurIPS)*, 2024.

[17] J. Monteiro, É. Marcotte, P.-A. Noël, V. Zantedeschi, **D. Vazquez**, N. Chapados, C. Pal, and P. Taslakian, "Xc-cache: Cross-attending to cached context for efficient llm inference," in *Conference on Neural Information Processing Systems (NeurIPS)*, 2024.

[18] G. Sahu, A. Puri, J. Rodriguez, A. Abaskohi, M. Chegini, A. Drouin, P. Taslakian, V. Zantedeschi, A. Lacoste, **D. Vazquez**, *et al.*, "Insightbench: Evaluating business analytics agents through multi-step insight generation," in *International Conference on Learning Representations (ICLR)*, 2024.

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