

PhD. Omar Vidal Pino

Curriculum Vitae

 Carrer de Lluïl, No. 48, 4ta -1, 08005
Barcelona, Spain.
 ovidalp83@gmail.com
 <https://www.linkedin.com/in/omar-vidal-pino-50a6779a/>

CURRENT POSITION

Marie Skłodowska-Curie Fellow at **BielGlasses**.
Lead Researcher / Senior AI Scientist/ Senior CV and ML Engineer.

SUMMARY

Innovative and results-driven AI Scientist with over 10 years of experience in designing, developing, and deploying advanced Machine Learning (ML) models and algorithms. Expert in leveraging deep learning, natural language processing (NLP), and computer vision to solve complex problems. Proficient in C, C++, Python, TensorFlow, PyTorch, and Keras, with a strong background in mathematics, data science, and statistical analysis. Proven track record of leading interdisciplinary teams and driving research from concept to production in fast-paced environments. Passionate about pushing the boundaries of AI to achieve groundbreaking results. *Specialization Areas:* Computer Vision (CV) and Pattern Recognition, Machine Learning (ML) and Deep Learning.

RESEARCH AREAS

Image Semantic Understanding; Features Descriptions; Semantic Features Representation; Object Recognition, Object Description, and Semantic Classification.

AWARDS

- 2022-2024 **Marie Skłodowska-Curie Fellowship (TECNIOspringINDUSTRY)**
Research Executive Agency - European Commission
Marie Skłodowska-Curie Actions (MSCA),
Government of Catalonia, Spain.
- 2017-2019 **Research Development Foundation (FUNDEP) Scholarship**
Federal University of Minas Gerais, Brazil.
- 2016-2017 **Undergraduate Rectory Scholarship**
Federal University of Minas Gerais, Brazil.
- 2014-2018 **Coordination for the Improvement of Higher Education Personnel (CAPES) Scholarship**
PhD Program –Department of Computer Science
Federal University of Minas Gerais, Brazil.
- 2007 **Summa Cum Laude – Computer Science**
University of Oriente, Cuba.

EXPERIENCE ABSTRACT

RESEARCH	+10 years.
TEACHING	8 years.
SOFTWARE ENGINEER	9 years.
CV & ML ENGINEER	8 years.
CV & ML TEAM LEADER	4 year.

EDUCATION

- 2014 – 2020 **Ph.D. in Computer Science**
AI and Computer Vision
Federal University of Minas Gerais, Brazil.
- 2009 – 2011 **M.S. in Computer Science**
ML and Applied Computing
University of Camagüey, Cuba.
- 2002 – 2007 **B.S. in Computer Science**
Department of Computer Science
University of Oriente, Cuba.

SKILLS

Hard Skills

	Deep Learning (DNN, CNN, LSTM) Generative AI (LLMs, LVMs,)
HIGHT LEVEL	Statistical ML, Scikit-learn, Tensorflow, PyTorch, Keras, TensorRT, OpenCV, Dlib, C++, C, Python, R, Docker, Git, Shell, Linux, LaTeX.
	Robot Operating System (ROS), DevOps and MLOps,
INTERMEDIATE	Project Management (Monday), Agile Development (Trello), Embedded System Developing, Technology Commercialization.

Soft Skills

Commitment and enthusiasm / Responsible and hardworking / Problem solving / Teamwork - collaboration / Team-Project Manager / Communication Skills/ Multi-tasking.

COMMUNICATION SKILLS

Languages

SPANISH	Native or bilingual proficiency
PORTUGUESE	Full professional proficiency
ENGLISH	Professional working proficiency

Activities

CONGRESS	(English) Exhibitor at MWC/IOT Solutions World Congress – 2023, 2024.
CONFERENCES	(English) Oral Presentation at Computer Vision Conferences – 2019, 2020, 2021.
POSTERS/TALKS	(Portuguese) Congress Organizer, Talks at UEA Informatics Week – 2016, 2017, 2019.

WORK EXPERIENCE

CURRENT, FROM JUNE 2022 (FT¹)

Biel Glasses S.L.² - Barcelona, Spain.

Lead Researcher / Senior AI Scientist

Introduced Computer Vision, AI, and Mixed Reality technologies to create smart glasses enhancing mobility for people with low vision. Led development and deployment of ML/CV models for real-time data analysis and prediction. Designed and implemented NLP algorithms for localization and information extraction. Directed cross-functional teams to integrate AI solutions, ensuring seamless scalability and performance.

JULY 2021 – MAY 2022 (FT)

Maxtrack Industrial LTDA³ - Brazil.

Systems Development Manager/Research Team Leader

Enhanced ML/AI systems and integrated new technologies as needed. Planned and coordinated the creation, maintenance, and implementation of AI and CV features.

SEPTEMBER 2020 – JULY 2021 (FT)

Maxtrack Industrial LTDA - Brazil.

Research Team Leader/ Senior AI Scientist

Led Computer Vision and AI research in the Engineering and Hardware department. Developed Edge-AI solutions, including Driver Monitoring Systems (DMS) and Advanced Driver Assistance Systems (ADAS). Mentored junior researchers/engineers and collaborated on interdisciplinary projects, fostering innovation.

DECEMBER 2019 – SEPTEMBER 2020 (FT)

Maxtrack Industrial LTDA - Brazil.

Researcher / Senior Computer Vision and ML Engineer

Led the R&D Project UFMG-MaxTrack (a collaboration with Smart Sense Laboratory⁴ - UFMG). Conducted research and development of Edge-AI solutions for enhanced driving experiences. Designed and developed Computer Vision features for low-cost, customized embedded systems and IoT devices.

MAY 2014 – FEBRUARY 2020 (FT)

Laboratory of Computer Vision and Robotics (Verlab) – Federal University of Minas Gerais, Brazil.

Researcher/PhD Student

Research, Teaching and Publishing. Thesis: Semantic Description of Objects in Images Based on Prototype Theory; Field: Computer Vision. Published 3+ research papers in top-tier AI conferences and journals.

APRIL 2019 – DECEMBER 2019 (PT)

Invent Vision⁵ – Brazil.

Researcher / Senior Computer Vision and Machine Learning Engineer

Led R&D projects focused on applying AI in the industrial sector (Industry 4.0). Developed, constructed, tested, and maintained Computer Vision solutions for Inspection, Monitoring, Quality Control, and In-

¹Notation used: FT / PT (Full Time or Part Time position)

²Website: <https://bielglasses.com/>

³Website: <https://www.maxtrack.com.br/>

⁴Website: <http://smartsenselab.dcc.ufmg.br/en/project/v-video-analytics-solutions/>

⁵Website: <http://www.inventvision.com.br>

PUBLICATIONS

Thesis and Dissertation

Pino, Omar Vidal (2020). Semantic Description of Objects in Images Based on Prototype Theory, PhD Thesis, Federal University of Minas Gerais (UFMG), Belo Horizonte, Brazil. Advisor: PhD. **Montenegro Campos, Mario Fernando**.

Pino, Omar Vidal (2011). A Smart Tool for Managing Bank Accounts, M.Sc Dissertation, University of Camagüey, Cuba. Advisor: PhD. **Martínez Folgoso, Sandro**.

Pino, Omar Vidal (2007). Visual Attention in Log-Polar Images, B.Sc Manuscript, University of Oriente, Cuba. Advisor: M.Sc **Tamayo Asencio, Nadia**.

Conferences and Journals

Guerrero Pérez Lisandra, **Vidal Pino Omar**, Erichsen Nas-sif Monica. Avaliação de recursos de informação digitais: proposta de atualização da Cyberguide. In *Informação & Informação*, 27(1):353-80, 2022.

Omar Vidal Pino, Erickson R. Nascimento, Mario F. M. Campos. Introducing the structural bases of typicality effects in deep learning. In *Image and Vision Computing (IMAVIS)*, 2021, doi: [10.1016/j.imavis.2021.104249](https://doi.org/10.1016/j.imavis.2021.104249).

Omar Vidal Pino, Erickson R. Nascimento, Mario F. M. Campos. (2021). Semantic Description and Classification of Objects based on Prototype Theory, 2020: [1906.03365v4](https://doi.org/10.1006.03365v4)

Omar Vidal Pino, Erickson R. Nascimento, Mario F. M. Campos. Semantic Description of Objects in Images Based on Prototype Theory. In *33rd IEEE Conference on Graphics, Patterns and Images (SIBGRAPI)*, Porto de Galinhas, Pernambuco, Brazil, November, 2020.

Omar Vidal Pino, Erickson R. Nascimento, Mario F. M. Campos. Prototypicality effects in global semantic description of objects. In *Winter Conference on the Applications of Computer Vision (WACV)*, Hawaii, USA, 2019.

Omar Vidal Pino, Erickson R. Nascimento, Mario F. M. Campos. Semantic Description of Objects based on Prototype Theory. In Doctor Consortium at WACV, Hawaii, USA, 2019.

Anderson Tavares, David Saldaña, Hayllander Blonski, Hector Azpúrua, Jhielson Pimentel, **Omar Pino**, Rafael Colares, Douglas Macharet, and Luiz Chaimowicz. Y-Rescue Team Description Paper. In RoboCup, Hefei, China, 2015.

Omar Vidal Pino, Sandro Martínez-Folgoso. Gestcu: A smart tool for managing bank accounts. In National Forum of Science and Technology of Central Bank of Cuba, Havana, 2013.

Vidal Pino, Omar; Guerrero Pérez, Lisandra. Log-polar image: spatially-variant vision model. A Literature Survey (Imagen Log-Polar: Modelo de visión espacio-variante). *Innovación Tecnológica*, 2012, vol. 18, no 1.

Mora Arias, Rigoberto; **Vidal Pino, Omar**; Guerrero Pérez, Lisandra. Data mining techniques using Weka Knowledge

dustrial Automation. Transitioned from theoretical work to practical industrial applications using Computer Vision.

MARCH 2016 – MARCH 2019 (PT)

Federal University of Minas Gerais – Brazil.

Senior Data Engineer

Board member of the First UFMG Institutional Repository. Designed, constructed, developed, tested, and maintained system architectures for large-scale data processing and database systems.⁶

MARCH 2013 – JANUARY 2014 (PT)

DIVEP Trading Company – Las Tunas branch, Cuba.

Machine Learning and Business Intelligence Engineer

Designed, developed, and maintained BI solutions for the automotive industry using Database Knowledge Discovery (KDD), Data Mining, and Machine Learning Techniques.

OCTOBER 2007 – FEBRUARY 2013 (PT)

Central Bank of Cuba – Las Tunas branch, Cuba.

Systems Administrator and Software Engineer

Ensured continuous and optimal performance of IT, banking, and financial services systems. Developed business intelligence applications for the banking sector using ML, KDD, Data Mining, and BI technologies.

SEPTEMBER 2009 – DECEMBER 2011 (PT)

Faculty of Computing – University of Camagüey, Cuba.

Researcher/M.Sc Student

M.Sc Dissertation focused on ML, Data Mining, and Business Intelligence techniques. Developed an AI-Recommendation Engine System for detecting fraudulent, suspicious, or corrupt bank transactions.

SEPTEMBER 2004 – MAY 2007 (PT)

Computer Science Department – University of Oriente, Cuba.

Junior Software Engineer

Member of the Software Development Laboratory "Casa del Software". Gained initial experience in software development for the healthcare and industrial sectors.

TEACHING

2015-2016

Teaching Assistant

DCC114 - Introductory Digital Systems Laboratory

Linkedin

Instructor: PhD. Otávio Fernandes, Antonio
Computer Science Department,
Federal University of Minas Gerais, Brazil.

2010-2013

Lecturer

UCPPT_FC - Introduction to C++ Programming
Faculty of Computing, Las Tunas,
University of Pedagogical Sciences, Cuba.

2007-2010

Lecturer

ULT_TS - Mathematical Analysis
Faculty of Technical Sciences,
University of Las Tunas, Cuba.

2004-2006

Teaching Assistant

UO_CSD - Programming Languages, Design and Implementation

Linkedin

Instructor: PhD. Anaya Sánchez, Henry
University of Oriente, Cuba.

Explorer (Aplicación de técnicas de minería de datos con Weka Acknowledge Explorer.). *Innovación Tecnológica*, 2011, vol. 17, no 1.

UNIVERSITY EXTENSION

2021-PRESENT

Editorial Board of ÚNICA Journal,
ISSN: 2594-9624.

2019-PRESENT

Reviewer of Journal of Control,
Automation and Electrical Systems.

UFMG Community

2016-PRESENT

Reviewer of Congress of Innovation
and Teaching Methodologies

Directorate of Innovation and Teaching Methodologies
Federal University of Minas Gerais, Brazil.

2016-2019

Organizer of the Congress of Innovation
and Teaching Methodologies

Directorate of Innovation and Teaching Methodologies
Federal University of Minas Gerais, Brazil.

2016-2019

Board member of the First UFMG
Institutional Repository

Advisor: PhD. Eucidio Pimenta Arruda.
Federal University of Minas Gerais, Brazil.

2019

Invited Talks/XIII UEA Informatics Week

Computer Vision: the most powerful manifestation of
Artificial Intelligence that is building the future.
Tutorial Presentation, November 27-30.
University of Amazonas (UEA), Brazil.

2017

Invited Talks/UFMG Knowledge Week

Innovation and improvements in the quality of
undergraduate education at UFMG. Talks, October 16-20.
Advisor: PhD. Eucidio Pimenta Arruda.
Federal University of Minas Gerais, Brazil.

2016

Invited Talks/UFMG Knowledge Week

Analysis of the Innovation and improvements in the quality
of undergraduate education at UFMG. Talks, October 17-21.
Advisor: PhD. Eucidio Pimenta Arruda.
Federal University of Minas Gerais, Brazil.

ACRP Community

2009-2013

Member of Cuban Association of
Pattern Recognition (ACRP).

University of Las Tunas, Cuba.

2010

VIII National Congress of Patterns
Recognition (RECPAT 2010).

Invited/Representing the University of Las Tunas, Cuba
Cayo Coco, Ciego de Avila, March 1-3, 2011.

2009

VII National Congress of Patterns
Recognition (RECPAT 2009).

Invited/Representing the University of Las Tunas, Cuba
University of Oriente, December 10-12, 2009.

⁶Project website: <https://repositorio.ufmg.br/>

