

# JUAN A. RODRÍGUEZ

Montréal, Québec, Canada

[joanrg.ai@gmail.com](mailto:joanrg.ai@gmail.com) ♦ [joanrod.github.io](https://joanrod.github.io) ♦ [Github](#) ♦ [Twitter](#)

## EDUCATION

---

**Mila - Quebec AI Institute / École de technologie supérieure (ÉTS)** 2023 - 2027

*Ph.D. in Computer Science*

- Grade: GPA of 4.0/4.0
- Advised by Prof. Marco Pedersoli, Prof. Chris Pal, and Dr. David Vazquez
- Topic: Multimodal Generative Models, LLMs, Scalable Vector Graphics

**Universitat Autònoma de Barcelona (UAB)** 2021 - 2022

*M.Sc. in Computer Vision*

- Grade: (GPA of 3.5/4.0)
- Thesis: *Text to Figure Generation*. Grade: A+ (best project award)
- 4 Host universities: Universitat Pompeu Fabra (UPF), Universitat Politècnica de Catalunya (UPC), Universitat Oberta de Catalunya (UOC)
- Courses: Optimization Techniques, Machine Learning for Computer Vision, 3D Vision, Visual Recognition, and Video Analysis, among others.

**Universitat Pompeu Fabra (UPF)** 2016 - 2020

*B.Sc. in Telecommunications Network Engineering*

- Thesis: *Handwritten text recognition: A system to translate notes into digital text*. Grade: A+

## INDUSTRY AND RESEARCH EXPERIENCE

---

**Mila - Quebec AI Institute / École de technologie supérieure (ÉTS)** Sept 2023 - **Current status**

*PhD Student* *Montreal, Canada*

- Ph.D. in Multimodal Generative Models, advised by Prof. Marco Pedersoli and Prof. Chris Pal.

**Servicenow Research** Jan 2023 - **Current status**

*PhD Student - AI Researcher* *Montreal, Canada*

- Working with the Low Data Learning Research group, advised by Dr. David Vazquez, Dr. Issam Laradji, and Prof. Chris Pal.
- Worked in Generative Models for image and text generation (text to image, large language models, code generation)
- Worked on Document Intelligence, reducing by 97% the training time of document classification models on CPU.
- Developed research on Scalable Vector Graphics (SVG) Generation, resulting in the StarVector model.

**Computer Vision Center (CVC), Universitat Autònoma de Barcelona (UAB)** Nov 2022 - Jan 2023

*Research Intern in Computer Vision* *Barcelona, Spain*

- Working on generative models (GANs and Diffusion) at the LAMP research group, advised by Prof. Joost van de Weijer.
- Working in text-to-image and video generation using diffusion models.

**Universitat Pompeu Fabra (UPF)** Sept 2020 - April 2022

*Research Intern in Computer Vision* *Barcelona, Spain*

- Computer Vision for E-Learning platforms, facial analysis and emotion recognition

- Led the construction of an emotion prediction module to improve E-Learning experiences, using video facial analysis and deep learning
- Deployed the emotion prediction models and analysis tools into the [nanomooocs.cat](https://nanomooocs.cat) platform.
- EEG Analysis
- Teaching Assistant

## Aural Widex

*Business Intelligence Engineer*

Jan 2018 - Sept 2020

*Barcelona, Spain*

- Business Intelligence developer, building data analysis tools for finance and product departments.
- CRM and ERP design and development.

## ACADEMIC SERVICE

---

- Reviewing: ICLR 2023, CVPR 2023, ICLR 2024, CVPR 2024, ICLR 2025, CVPR 2025, IJDAR Journal
- Student supervision: Joan Fernandez, Rishav Pramanik.
- Workshop Organization: CVPR 2024 - L3D-IVU: 2nd Workshop on Learning with Limited Labelled Data for Image and Video Understanding
- Teaching: Teaching Assistant at UPF - Software Engineering for Web Applications (40 hours of labs and seminar sessions), Large Scale Distributed Systems (20 hours of lab sessions).

## RESEARCH PUBLICATIONS

---

1. BigDocs: An Open and Permissively-Licensed Dataset for Training Multimodal Models on Document and Code Tasks. **Juan A. Rodriguez**, Xiangru Jian, Siba Smarak Panigrahi, Tianyu Zhang, Aarash Feizi, Abhay Puri, Akshay Kalkunte, François Savard, et. al. ArXiv 2024
2. StarVector: Generating Scalable Vector Graphics Code from Images. **Juan A. Rodriguez**, Shubham Agarwal, Issam H. Laradji, Pau Rodriguez, David Vazquez, Christopher Pal, Marco Pedersoli. ArXiv 2024
3. Too Big to Fool: Resisting Deception in Language Models. Mohammad Reza Samsami, Mats Leon Richter, **Juan A. Rodriguez**, Megh Thakkar, Sarath Chandar, Maxime Gasse. ArXiv 2024
4. InsightBench: Evaluating Business Analytics Agents Through Multi-Step Insight Generation. Gaurav Sahu, Abhay Puri, **Juan Rodriguez**, Amirhossein Abaskohi, Mohammad Chegini, Alexandre Drouin, Perouz Taslakian et al. ArXiv 2024
5. FigGen: Text to Scientific Figure Generation. **Juan A. Rodríguez**, David Vazquez, Issam Laradji, Marco Pedersoli, Pau Rodríguez. At **ICLR 2023**, **Tiny**
6. OCR-VQGAN: Taming Text-within-Image Generation. **Juan A. Rodríguez**, David Vazquez, Issam Laradji, Marco Pedersoli, Pau Rodríguez. At **WACV 2023 (Oral)**
7. IntentGPT: Few-Shot Intent Discovery with Large Language Models. **Juan A. Rodriguez**, Nicholas Botzer, David Vazquez, Christopher Pal, Marco Pedersoli, and Issam H. Laradji. ArXiv 2023
8. Affective State-Based Framework for e-Learning Systems. **Juan A. Rodríguez**, Joaquim Comas, Xavier Binefa. At **CCIA 2021**

## SKILLS

---

### Technologies:

1. **Deep Learning Frameworks:** PyTorch, HuggingFace, TensorFlow, Keras
2. **Large Language Model Tools:** vLLM, LLM Serving (HuggingFace Inference, FastAPI integration)
3. **High-Performance Computing (HPC):** GPU-Accelerated Distributed Training, Nvidia NGC, Multi-GPU and Multi-Node Training (PyTorch DDP, Accelerate)

4. **Cloud & Deployment:** AWS, Azure, Docker, Kubernetes, Linux-based Infrastructure

5. **Data Science Libraries:** Numpy, Pandas, Scikit-Learn

**Programming Languages:** Python, Java, C++, C, Javascript, HTML

**Mathematical foundations:** Vector Calculus, Linear Algebra, Probability, and Statistics.

**Other Software Skills:** Web Development, Git, Matlab, Latex.

**Languages:** Spanish (native), Catalan (native), English (highly fluent, academic writing), French (basic)