Ivan Felipe Rodriguez, PhD — AI Research Scientist & Engineer Agentic AI & Retrieval Systems

Mountain View, CA, USA

☐ +1 401 867 1134 • ✉ ifelipe.rodriguez@hotmail.com

🌐 piperod.github.io • **in** ivan-felipe-rodriguez

Profile

Machine learning researcher and AI engineer specializing in **agentic AI**, **retrieval-augmented generation (RAG)**, and robust representation learning. Currently leading research on LLM agent frameworks and long-context reasoning systems at Accenture. PhD in Cognitive Science (Brown University) with **first-author NeurIPS publications** and invited conference talks.

Experience

Accenture **Mountain View, CA**
Advanced ML/AI Research Manager *Aug 2025 – Present*
- Lead research and development of **agentic AI architectures** and **retrieval-augmented LLM systems** for enterprise deployment.
- Design **Model Context Protocol (MCP)** agent frameworks, scalable tool-use orchestration, and long-context reasoning pipelines.
- Drive experimentation and evaluation across agent planning, tool use, retrieval quality, and reliability.
- Manage cross-functional research initiatives bridging frontier AI research with production constraints.

Brown University **Providence, RI**
PhD Researcher, Cognitive Science (Serre Lab) *Aug 2019 – Aug 2025*
- Developed neuroscience-inspired deep learning methods to improve **robustness**, **interpretability**, and alignment with human visual perception.
- Built large-scale experimental pipelines for representation analysis and human-model behavioral comparison.
- Published multiple first-author papers at **NeurIPS** and presented invited talks at leading conferences.

Janelia Research Campus **Ashburn, VA**
Visiting Scientist & External Collaborator *Oct 2017 – 2020*
- Built pose-estimation and behavior-analysis systems using **part affinity fields** and **integer linear programming** for tracking.
- Contributed to scalable pipelines for behavioral quantification in neuroscience research.

AI Founded & Coinscious.io **Toronto, Canada**
Artificial Intelligence Consultant *Apr 2018 – 2019*
- Designed multi-class NLP classification and sentiment analysis systems.
- Developed AI-driven methods for market analytics and time-series prediction.

University of Puerto Rico, Río Piedras **San Juan, PR**
Research Assistant *Jan 2016 – Jun 2019*
- Developed computer vision systems for honey-bee behavior detection and pollen recognition.
- Deployed large-scale analysis across **100+ TB** of video data supporting ecological risk assessment.

Red Cat Propware **San Juan, PR**
Data Scientist *Sep 2015 – Sep 2018*
- Built ML algorithms for automated roof-damage estimation and drone anomaly detection from black-box logs.

Education

Brown University	**Providence, RI**
PhD, Cognitive Science	*2019 – 2025*
University of Puerto Rico, Río Piedras	**San Juan, PR**
MSc, Applied Mathematics (Honors)	*2016 – 2018*
University of Puerto Rico, Mayagüez	**Mayagüez, PR**
MSc, Scientific Computing	*2015 – 2016*
Universidad Sergio Arboleda	**Bogotá, Colombia**
BSc, Mathematics (Cum Laude)	*2008 – 2015*

Selected Publications & Talks

- **RTify: Aligning Deep Neural Networks with Human Behavioral Decisions.** NeurIPS 2024 (First Author)
- **HMAX strikes back: Self-supervised Learning of Human-Like Scale Invariant Representations.** CCN 2024 (Oral)
- **Performance-optimized deep neural networks evolve away from inferotemporal cortex representations.** NeurIPS 2023
- **Aligning Human and Machine Vision.** NeurIPS 2022

Technical Skills

Programming: Python, CUDA, C++, MATLAB; JAX, PyTorch, TensorFlow; parallel & high-performance computing

LLM & Agents: RAG, vector search, tool-using agents, MCP-style context/tool interfaces, long-context reasoning, evaluation & reliability

ML/AI: Computer vision, multimodal learning, representation learning, robustness, interpretability, time-series analysis, anomaly detection

Infrastructure: Distributed training; GPU/TPU computing; scalable ML deployment in cloud environments

Teaching & Leadership

Brown University	**Providence, RI**
Principal Instructor	*2022 – 2023*

- Taught *Introduction to Programming and Computational Reasoning* (~30 students); Python, MATLAB, and computational thinking.

University of Puerto Rico, Río Piedras	**San Juan, PR**
Research Mentor	*2017 – 2019*

- Supervised and trained 6 undergraduate researchers in computer vision and animal-behavior tracking.

Service & Additional Experience

The Church of Jesus Christ of Latter-day Saints	**Antofagasta, Chile**
Community Leader	*2012 – 2014*

Led teams of 20+ volunteers, coordinated community service projects, and supported operational planning.

Research Interests

Agentic AI • foundation models • multimodal reasoning • neuroscience-inspired learning • robustness