HÉCTOR J. VÁZQUEZ MARTÍNEZ

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DISTINCTIONS

Google PhD Fellowship
UPenn nominee (1 of 4), 2025
Harrison Graduate Fellowship
UPenn, 2025–26
Fontaine Fellowship
UPenn, 2022–25
MIT AI Thesis Award
Top 2 AI theses, 2022
Hazen Teaching Award
Top 3% of MIT EECS TAs, 2021
Albert G. Hill Prize
MIT Excellence Award, 2018

SKILLS

Applied AI / GenAI
Agentic AI, LangGraph, MCP
LangChain, RAG, vector DBs
LLM APIs, evals, interpretability

ML & Engineering
Python, PyTorch, Hugging Face
scikit-learn, NumPy, Pandas
Git, Docker, REST APIs

Strategy & Leadership
AI strategy & roadmaps
Executive & client demos
Contract, grant & patent writing

CERTIFICATIONS

BlueDot Impact
Technical AI Safety

IBM
RAG & Agentic AI Specialization

University of Pennsylvania
College and University Teaching
Language and Communication Sciences

U.S. Government
Secret clearance (inactive)

LANGUAGES

Spanish & English (native)
German (professional)

EXTRACURRICULAR

Athletics
Fairmount Rowing Association (FRA) High Performance team
MIT Men's Division I Lightweight Rowing Team

Cultural
Treinta y Tres Delaware Dance & Performance Team
MIT Casino Rueda Curriculum Director & Dance Instructor

SUMMARY

Applied AI scientist who takes language-AI research to production. 10 years in research labs and startups: lead engineer on production NLP for the U.S. Air Force, co-inventor on 3 U.S. patents, $1.25M+ in AI contracts, and agentic AI and AI strategy for a startup. Final-year Ph.D. in Linguistics (UPenn); B.S./M.Eng. EECS (MIT).

EDUCATION

University of Pennsylvania (UPenn) **Sep. 2022 – May 2027 (expected)**
PhD in Linguistics *GPA: 3.94/4.0*
Dissertation: Sample-efficient speech representation learning and speech segmentation.

Massachusetts Institute of Technology (MIT) **Jun. 2015 – Jun. 2021**
M.Eng., B.S. in Electrical Engineering and Computer Science (EECS) *GPA: 5.0/5.0*
M.Eng. thesis: Novel linguistic methods for evaluating neural language models.

PROFESSIONAL EXPERIENCE

Jeevy Fabrication **Contract, part-time**
AI Strategy Consultant & Lead AI Engineer *Aug. 2026 – Nov. 2026*

- Built agentic AI features into the Jeevy Gnosis platform, cutting the time project managers and estimators spend on planning, quoting, and resource allocation by 10x.
- Wrote the company's AI strategy roadmap and secured buy-in from the CEO, CTO, and COO.
- Won admission to NVIDIA Inception and Google for Startups: $400K+ in AI compute credits plus startup and VC networks.

Virtualitics, Inc **Pasadena, CA**
Artificial Intelligence (AI) Engineer *Jun. 2024 – Aug. 2024*
Natural Language Processing (NLP) Engineer *Feb. 2021 – Aug. 2022*

- Lead engineer and project manager on a U.S. Air Force (AFRL) SBIR Phase II contract (No. FA864922P0579), held with a U.S. Secret clearance. Built and deployed an NLP pipeline for B-52 software deficiency reports with Air Force analysts; $750K in revenue.
- Brought in $500K in new client contracts with a patented explainable-AI capability for graph analytics that accelerated adoption of Virtualitics' core network-analysis product.
- Cut time to first insight for non-technical users from over 1 hour to 10–20 minutes with a patented natural-language recommendation system that suggests relevant workflows from live data.
- Returned to lead a 5-person generative AI team: automated key parts of the analytics pipeline and demoed to executives, investors, and clients, winning buy-in for a 12-month GenAI roadmap.

LEADERSHIP

AI4GOOD Research Incubator **Philadelphia, PA**
Co-founder, Chair *Dec. 2024 - May 2025*

- Launched an AI workshop series and research incubator yielding 9 interdisciplinary proposals; funded as 1 of 12 out of 230 university-wide proposals ($25K *Draw Down the Lightning Grant*).

47th & 48th annual Penn Linguistics Conference **Philadelphia, PA**
Conference Chair *Sep. 2022 - May 2024*

- Won $30K+ in grants, managed a $50K+ budget and a 30-person team, drew 200+ attendees and 4 keynotes, and returned $10K+ in profit to fund future conferences.

SELECTED PUBLICATIONS & PATENTS

H. J. Vázquez Martínez, "findsylls: A Language-Agnostic Toolkit for Syllable-Level Speech Tokenization and Embedding," *Interspeech 2026*. [**Best Student Paper nominee**]

H. J. Vázquez Martínez & C. Yang, "Measuring Form and Function in Language Models," *Second BabyLM Workshop (ACL)*, 2026.

H. J. Vázquez Martínez et al., "Systems and Methods for Network Explainability," U.S. Patent No. US-20230004557-A1, 2023.