

# Luis Brena Pantoja

✉ lbrenap1@jhu.edu

📄 luisedmundo354

🌐 luis-brena

🌐 <https://luisedmundo354.github.io/>

**Target Role: AI Research Engineer**

## Research and Product Development Leader

Engineer and researcher who turns ambiguous problems into reliable, shipped systems—from end-to-end NLP/ML pipelines to STM32-based prototypes—with measured impact: IR accuracy +20% on U.S. Tax Court pipeline; inter-annotator agreement +15% via Label Studio redesign; turnaround time −30% (inventory/ops); RevPAR +50%; costs −20%; \$1.2M project 5% under budget.

## Selected Projects

IR and Argument Mining	Legal Argument Generation Retrieval Model
Embedded Hardware	STM32+CCAO2M2 Audio Capture Port Beam-Forming Audio Capture & Processing — Embedded C/C++; audio capture and processing prototype.
Front-end development	Label-Studio Fork / Text Annotation Platform Features — Span-relation UI changes used to improve annotation quality.
Reinforcement Learning	Nmb9 Game Implementation + RL (SAM) — Implemented game logic and reinforcement learning approach.

## Employment History

2025 – Present	<b>Graduate Research Assistant</b> , AI Institute - Johns Hopkins University — Baltimore, MD <ul style="list-style-type: none"><li>Built an end-to-end fine-tuning pipeline (HF, SageMaker, PyTorch) for argument mining on U.S. Tax Court documents; boosted IR accuracy by 20%.</li><li>Redesigned Label Studio span-relation UI, increasing inter-annotator agreement by 15%.</li><li>Authored a relation-labeled legal argument scheme adopted in the lab for structured reasoning generation.</li></ul>
2024 – 2025	<b>Event Operations Manager</b> , Peabody Institute — Baltimore, MD <ul style="list-style-type: none"><li>Applied Lean Six Sigma to inventory flow; reduced asset turnaround time by 30%.</li><li>Organized 30+ large-scale events; introduced standardized planning templates and CAD layouts.</li></ul>
2018 – 2023	<b>Senior Manager</b> , CHC Hotels — Huancayo, Peru <ul style="list-style-type: none"><li>Led a 24-person team; implemented dynamic pricing and automation that lifted RevPAR 50% and guest satisfaction 20%.</li><li>Deployed Oracle Micros POS, Clock PMS, and SOPs; reduced operational costs by 20%.</li><li>Managed a \$1.2M multi-phase renovation, delivered on schedule and 5% under budget.</li></ul>

## Employment History (continued)

**Founder & Product Lead**, Grupo Oka, Specialty Food Retail — Huancayo, Peru

- Grew to three stores with \$300K annual revenue; led product design, branding, and operations.

## Education

2023 – 2025	<b>MSc, Johns Hopkins University</b> in Engineering Management, ECE concentration
2013 – 2018	<b>BEng, Universidad de Lima</b> in Industrial Engineering

## Skills

Languages	Fluent English and Spanish.
Coding	Python, RUBY, C++, C, React, Ladder Logic
Databases	PostgreSQL, SQLite
Dev	HTML, JS, RoR, Flask, Django, React, ROS2, SolidWorks, PyTorch, TensorFlow, Transformers 😊
Misc.	MS Visio, SolidWorks, Figma

## Awards and Certificates

### Awards and Achievements

2017	<b>Corporate Governance Essay Contest Winner</b> , Universidad de Lima, Peru.
2022	<b>Hospitality Outstanding Operations Prize</b> , El Tambo Municipality, Peru.

### Certification

2019	<b>Advanced Certificate for Executives in Management, Innovation, and Technology</b> . MIT Sloan.
2016	<b>Certified Solid Works Essentials</b> . Awarded by SolidWorks.

## References

Available on Request