

# Ryan J. McCann, Ph.D. Candidate

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## Professional Summary

**PhD-funded AI/ML engineer** who turns reinforcement-learning research into production, low-latency network systems. Maintainer of **FUSION** optical-network RL simulator (NSF POSE pending, 10+ GitHub Stars) with 5 peer-reviewed publications; fluent Spanish (C1). I lead fully remote teams across the Americas and ship green-checked CI pipelines in under five minutes. Seeking a global, 100% remote role to scale ML products end-to-end, from research through MLOps.

## Core Skills

- **Machine Learning Frameworks:** PyTorch, TensorFlow, StableBaselines3, Scikit-learn.
- **AI Techniques:** Reinforcement Learning, Deep Learning, CNNs, Bayesian Models.
- **Data Processing & Visualization:** NumPy, SciPy, Pandas, Matplotlib, Gymnasium.
- **MLOps & Deployment (Currently Studying):** Transformers, MLflow, Docker, AWS.
- **Tools & Infrastructure:** Git, GitHub Actions, Slurm HPC Clusters, JIRA, Linux.

## Professional Experience

**AI Researcher** | *University of Massachusetts Lowell (Remote)* | Sept. 2022 – Present

- Integrated a reinforcement learning module into an open-source optical network simulator, boosting network efficiency by **25%**.
- Managed **80+ PRs** across a **2,000-commit** code base while coordinating a **5-person** team via GitHub Actions, JIRA, and Slurm HPC clusters.
- Published original research at **3 IEEE international conferences** (200+ attendees); journal submission on interpretable deep RL for optical routing in progress (Summer 2025).

**Firmware Validation Engineer Intern** | *Zebra Technologies (Remote)* | Jan. – Aug. 2022

- Designed and deployed automated firmware validation tests in Jenkins, reducing build failures by **150+ occurrences**.
- Built Python-based API parser facilitating streamlined Wi-Fi 6 compliance testing on **10+ printer models**.

**Data Scientist Intern** | *Nference (Hybrid)* | Summer 2019 & 2020

- Squashed **30 unit-test bugs** to stabilize a mission-critical NLP library for **100+ devs**.
- Built Python pipelines querying gene-expression APIs and computing similarity for **300+ drugs**, using MongoDB caching to slash data-prep latency for clinical decision support.

## Education

*University of Massachusetts Lowell*

**Ph.D. in Computer Engineering (part-time, fully funded): 3.7 GPA | Expected: 2028**

- Focused on network design and **applied AI**, guiding **200+ students** across **2+ years** through hands-on implementation of protocols (TCP, UDP, IP, RDT, OpenFlow) across all **5 network layers**, with projects involving HTTP, DNS, and network performance evaluation.

**M.S.E. in Computer Engineering (accelerated, fully funded): 3.7 GPA | 2023**

- Applied supervised, unsupervised, and reinforcement learning (e.g., CNNs, Q-learning, TD, Bayesian models) to real-world and Gymnasium tasks using PyTorch, TensorFlow, Scikit-learn, and Optuna, culminating in a **master's thesis** that **improved optical routing by 18%**.

**B.S.E. in Computer Engineering: 3.9 GPA | Magna Cum Laude, National Honors College | 2022**

- Applied core CS methods to ML workflows in C++/Python; built a Fedora distro **featured in UML's Engineering Magazine** and **led 2-person** embedded systems lab.