Nassim Habbash

Resume | LinkedIn | Github

Work Experience

Raft May 2024 - Present

ML Platform Team Lead

- Led and managed a cross-functional team of 2 ML engineers, 2 data labeling specialists
- Designed and implemented a Prediction Store to track runtime prediction and configuration data across model servers and microservices, improving metric granularity and reducing ticket resolution times
- Built data labeling pipelines and integrations between Raft's customer-labeled data and third-party tooling, leveraging human-in-the-loop labeling and smart sampling strategies to increase the volume of high-confidence labeled data
- Developed and drove adoption of internal tooling that enhanced engineering efficiency in model evaluation and dataset management
- Led cross-functional collaboration between the ML Platform, ML Core, Data, and DevOps teams to align on technical requirements and drive execution for projects requiring multi-team coordination. Facilitated stakeholder discussions, ensuring clear communication of dependencies, priorities, and trade-offs. Acted as the bridge between teams, translating business needs into actionable engineering tasks and resolving blockers to accelerate delivery

Jun 2023 - May 2024

MLOps Tech Lead

- Designed ML performance monitoring metrics, leveraging proxy measurements (e.g., user actions, edit rate) to assess real-world impact and detect regressions early
- Implemented standardized load testing CI jobs to mitigate traffic volume risks and ensure system stability under varying loads
- Reduced failure rates in FastAPI microservices by migrating from Gunicorn to Uvicorn, tuning configurations and optimizing IO-bound and CPU-bound task execution
- Established a Pre-Production environment across Kubernetes and data stores, mirroring Production states to improve rollout confidence through realistic pre-deployment metrics
- Introduced Data Warehousing for ML workflows, tracking critical data states in BigQuery to enhance analytical capabilities
- Improved Elasticsearch performance through resharding, reindexing, and automated downsampling, reducing query latency and storage overhead
- Designed and maintained Model Retraining and Evaluation DAGs, streamlining ML model iteration and continuous learning processes

Sep 2021 - Jun 2023

Machine Learning Engineer

- Redesign and improve scalability of ML inference servers by repackaging legacy codebases and splitting business logic from model serving logic
- Build ETL pipelines to extract, version and label data extracted from trade documents for retraining and testing
- Build model retraining pipelines to improve extraction performance

Trinity College Dublin • Distributed Systems Group Sep 2020 - Feb 2021

Machine Learning Research Intern

- Worked on Reinforcement Learning and state space self-adaptation using self-organizing maps (Python, Numpy, Graph-Tool, OpenAI Gym, W\&B)
- Reworked the architecture of a state space learning framework, making it RL algorithm agnostic, refactoring the data flows and components, increasing maintainability
- Designed new mechanisms to address the pre-existing stability and convergence issue of the model, obtaining stable performance throughout standard benchmarks and increasing the total reward rate of the previous iteration by 104%

Sinapto Srl Sep 2016 - Dec 2018

Junior Web Developer

- Designed and implemented new administration and teaching modules, integrating the new components to the pre-existing platform and systems (PHP, PostgreSQL, JQuery, JS/HTML/CSS)
- Maintained the infrastructure, ported legacy and unmaintained codebase, improving its supportability and extendibility, ticket resolution, end-to-end testing

Education

University of Milano-Bicocca Oct 2018 - Feb 2021

- M.Sc in Computer Science with Honours
- Areas: Machine Learning, Deep Learning, Data Analytics, Data and Text Mining, Knowledge Representation, Simulations, Data Visualization
- GPA > GPA: 29.57/30, Final Grade: 110/110 cum laude

University of Milano-Bicocca Sep 2015 - Oct 2018

- B.Sc. in Computer Science
- GPA > 27.15/30, Final Grade: 105/110

Academic Publications

Reinforcement Learning for Autonomous Agents Exploring Random Environments Sep 2020 - Apr 2020

- Paper, GH
- Co-authored the architecture of an autonomous agent able to avoid obstacles while searching for a target in randomly generated and unknown environments, using Reinforcement Learning (Unity3D, ML-Agents)
- Illustrated the issues with basic RL approaches and presented solutions to fill the gap
- Developed a live demo using React and WebGL, deploying it on GHPages
- Published and presented at the conference "From Objects to Agents, 2020 Edition" by University of Bologna