


Jocelyn Beauchesne

Lead Research Engineer – Green Card Holder – 6+ years of experience

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Professional Summary

- Applied Scientist with 6+ years of experience building frontier AI systems and leading ML teams.
- Dual Master's from elite **MIT Operations Research Center** and **École Polytechnique**.
- Proven track record of translating **cutting-edge** ML research into **scalable products** that drive measurable **business impact**.
- Deep expertise in LLM applications, fine-tuning, and building agentic systems from conception to 1M+ users.

Experience

Sizzle AI — Founding Research Engineer, Machine Learning

New York City, NY | 2024 - Present

- Partnered with the CEO (**ex-Meta VP of AI**), CTO and product, UXR and design counterparts to lead core AI initiatives, driving platform growth from 0 to 1M+ courses created by users.
- **Owned end-to-end development of 18 features**, driving average metric improvements of 5-10% validated through A/B testing experiments
- **Technical Leadership**: Building a Tutoring Agent
 - Knowledge Extraction: Built LLM-powered pipeline that decomposes educational content into atomic Knowledge Components (KCs) with vector DB storage and custom evaluation
 - Autonomous Planning: Developed hierarchical curriculum planning with over **1M+** courses generated
 - Grounded Generation: Engineered pipeline generating and evaluating **100M+** educational content with RAG
 - Adaptive Recommendation: Implemented Recommendation algorithm that optimizes for engagement and learning through real-time mastery tracking

Hyperscience — Engineering Manager, Machine Learning

New York City, NY | 2022 - 2023

- **Managed a team of 5 Senior ML Engineers**, reporting directly to the VP of AI (**ex-Quora VP of AI**) and collaborating with **4 stakeholders**
- **Shipped 6 major ML features**
 - Annotation Copilot: Real-time Online Learning and Anomaly Detection
 - Unsupervised data selection **reducing annotation costs by 70%**
 - Unstructured Extraction: Automatic fine-tuning to customers data and NER models
 - Improved training time with a **60% speed-up** through parallelization and early stopping

Hyperscience — Machine Learning Engineer

New York City, NY | 2022 - 2022

- Stepped-up to lead Annotation Copilot development, **patented** as **P3** with a **40% reduction** in annotation costs
- **Mentored** a team of NYU Data Science Graduate students Capstone Project winning best poster award (see **P4**)
- Improved **Transformer** based information extraction model accuracy on out-of-distribution sample by 20%

Abnormal Security — Machine Learning Engineer

New York City, NY | 2019 - 2020

- Improved detection of advanced email attacks by **100%** while maintaining false positive rate for enterprise customers
- Rapidly iterated improvements to **Deep Learning** models (features, fine-tuning, ensembling) processing 10M+ emails daily and consistently evaluated improvements with **A/B testing** resulting in 2 patents **P5**

Education

Massachusetts Institute of Technology	Cambridge, MA
M.S. in Business Analytics (Operations Research Center) (GPA 5.0/5.0)	2019
Relevant Coursework: Machine Learning, Deep Learning, Robust Optimization, Applied Probability and Stochastic Models Research Assistant for Pr. Vivek Farias (MIT - Operations Research) for Causal Inference study	
Ecole Polytechnique (# 1 Grande Ecole in France)	Palaiseau, France
M.S. in Applied Mathematics (GPA 3.8/4.0)	2017 - 2018
Relevant Coursework: Machine Learning, Stochastic simulation, Statistical Graph Theory, Topological Data Analysis	
B.S. in Applied Mathematics	2015 - 2017
Relevant Coursework: Optimization, Modeling Random Events, Real Analysis, Differential Calculus and Complex Analysis, Algorithm Design and Analysis, Massive Data Processing, Molecular Biology and Genetic Information, Macroeconomics, Quantum Mechanics	
Lycée Michel de Montaigne	Bordeaux, France
Preparation Study For Highly Selective Entrance Exams To Grandes Écoles (Equivalent of Triple Major: Mathematics, Physics, Computer Science)	2012 - 2015

Accomplishments & Publications

A1 #1 Place Citadel Datathon, MIT 2019	
P1 Effect of fibrinogen concentrate administration 2020 on early mortality in traumatic hemorrhagic shock: a propensity score analysis	
SR Hamada, R. Pirracchio, J. Beauchesne	
Journal of Trauma and Acute Care Surgery, 2020	
P2 Data Augmentation via Adversarial Networks for Optical Character Recognition	
Jocelyn Beauchesne and Victor Storch	
International Conference on Document Analysis and Recognition (ICDAR), 2018	
P3 Filed Patent: Real Time Machine Learning For Guided Document Annotations	
Hyperscience	Filed 2023
P4 Blog Post: Machine Learning Mentorship with NYU Graduate Students	
Jocelyn Beauchesne (Mentor)	Team won best poster award
	Link
P5 2 Granted Patent: Discovering Graymail Through Real-Time Analysis Of Incoming Email	
Abnormal Security	Filed 2020
P6 6 Granted Patents on Unsupervised Anomaly Detection of vulnerabilities and cyber-attacks	
Rapid7	Filed 2019

Skills

Programming: Python (Expert), R, OCaml, Julia, Java, C++, SQL, React	
Machine Learning: PyTorch, transformers, scikit-learn, langchain, llama_index, Keras, RAG, LLM, NLP, CV	
Cloud Compute: AWS, GCP, GPU computing	
Software: Unix (Linux, MacOS), git, docker	
Languages: English (Fluent), French (Native), Spanish (Conversational)	
Misc: Judo Black belt, KiteSurfing	