

Jonathan Z. Amar

PhD, Senior AI Science Manager @ Verily (Google X)

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Professional, Research Experience and Projects

- Mar 2021–Present **Senior AI Science Manager Scientist**, VERILY LIFE SCIENCES, Boston, MA, *FTE*.
incl. *Senior AI Scientist* until Oct 2025.
Tech lead the manager of 5 AI scientists, driving healthcare solutions in Data Science through cross-functional efforts.
- Generative AI applications in healthcare delivery and research: multi-agent systems & evaluation.
 - LLM Foundational modeling on EHR data and genomics, for downstream various predictive tasks
 - Engagement modeling of platform users, risk prediction, equitable resource allocation
- Key Skills:** *Agent architecture and development (GPT/Gemini, orchestration, RAG and tool use...), Foundational model training (pytorch + GPUs + SFT + RL), EHR and large data modeling. Evaluation of LLM applications.*
- Sep 2016–Jan 2021 **Research Assistant**, MIT, Cambridge, MA.
Key topics: Analytics in Revenue Management, Product Recommendation. Development in Active and Reinforcement Learning. Covid-19 Modeling. Real-Time Bidding for Internet Advertisement.
Teaching Assistant: Operations Management (Fall 2017, Spring 2019, Summer 2019), MBA elective course and Executive program.
- Jun 2018–Sep 2018 **Data Scientist Intern**, UBER, San Francisco, CA.
Marketplace Optimization, Dispatch
- Incorporate predictive signals into matching decisions
 - Understand and approximate optimal decisions in an online setting
- Mar 2016–Aug 2016 **Research Internship**, TECHNION, Haifa, Israel.
Robust optimization in Machine Learning techniques.
Advisor: Aaron Bental and Tamir Hazan
- Sep 2014–Mar 2016 **Research Assistant & Projects**, ECOLE POLYTECHNIQUE, Paris, France.
- SHOR TOUCH: Most relevant and shortest path design in network of friends.
 - CMAP: Estimating joint spectral radius and applications. Analysis of commutation systems, using path-complete graph theory to estimate the stability of switched dynamical systems. Advisor: Yassine Chitour.
 - POLESTAR: Indoor localization, optimization of supply chain. Used path theory and Markov Chain proprieties to optimize the university organization. Finalist for PSC AWARD at Polytechnique.
- Sep 2014–Jun 2015 **Instructor**, STANISLAS, Paris, France.
Provided weekly training courses for undergraduate students in math and physics.

Education

- 2016–2021 **PhD**, MIT, Cambridge, 5.0/5.
Thesis: Algorithmic Advancements in the Practice of Revenue Management - *Advisor:* Nikolaos Trichakis
Operations Research. Relevant Courses: Linear, Dynamic, Robust Programming, Machine Learning, Algorithms
- 2013–2016 **MS - BS**, Ecole Polytechnique, Paris, France, 3.95/4.
One of the finest schools for sciences and engineering. Applied Mathematics, Operations Research, Optimization, Computer Science, Finance, Data Science, Statistics and Probabilities.

Skills and interest

- Languages **French** native, **English** native, **Hebrew** European C1, **Spanish** European C2
- Programming Python (expert), Julia, C++, SQL, R
- Volunteering French Scout Mentorship + Social-entrepreneurship w. Filipino NGO GAWAD KALINGA
Selected for Fulbright - Monahan scholarship

Select Recent Publications in AI and Healthcare – scholar

1. The complexities of patient-centred conversational artificial intelligence – *submitted*
2. Improving representativeness in trial recruitment: A data-driven approach – *published*
3. STEER: Inference-Time Risk Control via Constrained Quality-Diversity Search – *submitted ICML*
4. Integrating Genomics into Multimodal EHR Foundation Models – *submitted ICML*
5. Agents for Conversational Patient Triage: Preliminary Simulation-Based Evaluation with Real-World EHR Data
6. Sleepless nights, sugary days: Creating synthetic users with health conditions for realistic coaching agent – *accepted ACL*
7. A Behavioral Science-Informed Agentic Workflow for Personalized Nutrition Coaching – *accepted JMIR*
8. The Geometry of Queries: Query-Based Innovations in Retrieval-Augmented Generation – *accepted MLHC*
9. Selective fine-tuning on llm-labeled data may reduce reliance on human annotation: A case study using SoE – *accepted MLHC*
10. New Approach to Equitable Intervention Planning to Improve Engagement and Outcomes in a Digital Health – *accepted JMIR*