Leonard Tang

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Education

HARVARD UNIVERSITY   Cambridge, MA
A.B. Candidate in Mathematics and Computer Science   May 2023
- Selected Coursework: Real and Functional Analysis, Applied Linear Algebra Methods, Data Structures and Algorithms, Probability, Data and Economics, Theory of Computation (Graduate), Data Science (Graduate)
- GPA: 3.96/4.00

Professional Experience

NVIDIA   Santa Clara, CA
Software Engineering Intern   September 2021 – December 2021
- Working on the AI Infrastructure for Self-Driving (MagLev) team to build low-code/no-code data pipeline and visualization tools for Machine Learning Researchers using AngularJS, Go, and Python

AMAZON   Seattle, WA
Software Development Engineer Intern   June 2021 – August 2021
- Implemented a data vending and redriving pipeline to manage **1,000,000,000+** Amazon Sort Center events utilizing Apache Spark, Python, Java, TypeScript, and **10+ Amazon Web Services**
- Built **full-stack interfaces** allowing users to automatically create and update data subscriptions on events

GAMALON AI   Boston, MA
Machine Learning Engineering Intern   January 2021 – May 2021
- Worked with CEO to design graph-based **Genetic Algorithm** for **parse-tree manipulation** to induce **Probabilistic Context-Free Grammars** on unstructured text, with presentation to Series B investors
- Built and maintained a **suite of CLI tools** using Bash, Python, Expectation Maximization, and GPT-3 for model-building, significantly reducing manual Business Analyst labor from **over 4 weeks to ~1 day**
- Created a patent-pending question clustering and response interface with **Retrieval-Augmented Generated (RAG)** answer suggestions to enhance client chatbot language models with new knowledge

HARVARD MATH DEPARTMENT   Cambridge, MA
Course Assistant   September 2020 – December 2020
- Graded problem sets, held office hours, and taught seminars on linear algebra in machine learning for Math 22a: Linear Algebra and Vector Calculus I, a rigorous and proof-driven treatment of linear algebra

CENTER FOR BRAINS, MINDS, AND MACHINES   Boston, MA
Deep Learning Research Assistant   May 2020 – September 2020
- Built **contextual adversarial attacks** against object detection models like YOLOv4 and Faster R-CNN
- Generated **synthetic datasets** and implemented **recognition experiments** using MTurk and JavaScript

Selected Extracurricular Activities

DATAMATCH   Cambridge, MA
Director of Algorithm   October 2019 – Present
- Captured nuanced survey question embeddings using **Sentence-BERT** and devised **inter-question weightings**, like DropMax Deviation and Inverse-Proportion, to address polarity in answer distribution
- This year's iteration of the matchmaking algorithm matched **over 42,000 students** across **34 universities**

Skills & Interests

Technical Skills: Python, PyTorch, LaTeX, MATLAB, Java, Scala, React.js, HTML, CSS, and Tableau
Languages: Mandarin (fluent), Shanghainese (professional), and French (conversational)
Interests: Blues guitar, classical violin, NBA, Alain de Botton, Elon Musk's Twitter account, and the Grateful Dead