

Tamanna Ananna

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EDUCATION

Columbia University

New York, NY

MS in Computer Science, Machine Learning Track, GPA 3.7

July 2020 - 2022

Courses include: Machine Learning, Deep Learning System Optimization, Natural Language Processing, Advanced Spoken Language Processing, Algorithms and Data Structures, Systems Programming in C, Databases.

Princeton University

Princeton, NJ

BSE in Chemical and Biological Engineering, Cum laude

Sept 2014- June 2018

Awards: Reiner G Stoll Fellowship, top research award granted to one student in the dept.

EXPERIENCE

Machine Learning Research Assistant

New York, NY

Columbia University, Professor Zhou Yu

Aug 2021 - Present

- Investigating ways to improve object detection by grounding images with NLP approaches using PyTorch.
- Categorizing sources of noise in dialogue datasets and evaluating its impact on conversational AI models.

Teaching Assistant - Natural Language Processing

New York, NY

Columbia University

Sept 2021 - Dec 2021

- Prepared and delivered monthly lesson plans to 130 students on NLP topics spanning from naive bayes to Transformers.
- Held weekly office hours, clarified concepts, helped resolve issues related to Tensorflow and Python, and graded assignments.

Data Scientist

New York, NY

Rolex Watch USA

Nov 2019 - May 2021

- Owned data solutions, data quality, and reporting of a 250+ person org.
- Led the US team in a cross-functional project with teams from 5 countries. Introduced new KPIs and dashboards in PowerBI to C-suite that became key monitored metrics at weekly executive meetings.
- Designed a new Analytical Data Model, wrote and reviewed MS-SQL queries from 6 people, and deployed the solution to optimize for reporting in cloud-based Azure synapse, improving data refresh frequency from once/day to every 15 mins.
- Developed a semantic parsing NLP algorithm in Python for converting notes and comments into hierarchical entity classes.

Business Data Analyst

Stamford, CT

Precision Xtract

Aug 2018 - Nov 2019

- Improved the back-end algorithm in R for discerning health insurance payer, leading to 30% increase in precision.
- Transformed the project into a data-refining product, servicing over 7 pharmaceutical companies with \$1.2 million in annual revenue. Trained and led a 3 person technical team that became responsible for maintaining the product.

PROJECTS

English to Spanish Translator | Python, PyTorch, Pandas, GCP

- Trained a custom Encoder-Decoder Seq-2-Seq model in PyTorch and GPU that takes in English sentences and returns Spanish translation. Features a front-end through Flask framework.
- Created a data pipeline that tokenizes input, converts to tensors using custom language class, and feeds to model.

Web Server From Scratch | C, Socket API

- Built a 3-tier web server in C that supports GET method, fetches info and serves static content to client in HTML.
- Implemented socket API to build network connection and implements HTTP 1.0 protocol to communicate between server and client.

Vocab Game | Python Flask, HTML, CSS, SQLAlchemy

- Developed an educational web app that tests user's spanish vocabulary. Allowed user authentication that also tracks user performance and provides feedback.

SKILLS

- Software:** Python, Java, C, SQL, NoSQL, R, HTML. | *Knowledgeable:* CSS, Javascript, Express Js.
- ML:** Pytorch, TensorFlow, Sklearn, Pandas, Numpy, Praat. | *Knowledgeable:* GCP, Kubeflow, GPU optimization.
- Other:** Fluent in English, Bengali, Spanish. Beginner French. Organizer of conference with 500+ attendees.