

# TANVIN SHARMA

## Education

Technical University of Munich, Germany

MSc (Master of Science) Computer Science, October 2022 — Present (expected graduation August 2024)

Currently in the second semester of studies

Studied Machine Learning, Intro to Deep Learning, Natural Language Processing and Efficient Algorithms and Data Structures

In the current semester, focussing on Advanced Natural Language Processing and Blockchain based systems.

Warsaw University of Technology, Warsaw, Poland

BSc (Bachelor of Science) Computer Science, October 2018 — Present (expected graduation June 2022)

CGPA: 4.56 (on a scale of 5, 5 being the best)

Delhi Public School, R.K. Puram, New Delhi, India

Class XII - Physics, Chemistry, Maths, Computer Science, English | Score: 95.0%

## Experience

Backend Ruby on Rails developer - Toptal, USA (May 2022 - November 2022)

- Responsible for making REST APIs for Toptal's employee system
- Mainly working with GraphQL and Ruby on Rails

backend Python developer - [cthings.co](https://cthings.co), WARSAW, PL (March 2021 - November 2021)

- Responsible for making REST APIs for NID Smart Manhole Project and MPWiK Pipelines Project. Extensively worked on the Reports functionality for the application to provide useful data for the customer for analytical and study purposes.
- Mainly working with fastAPI and MongoDB

NLP Intern (pradhi.ai), Hyderabad, India

(September 2020 — January 2021)

- Worked on an NLP project: making a 'BOT' which took large and technically complex documents as input and provided a valid answer to a question provided.
- Used Data Science in Python especially Pandas, Natural Language Processing libraries and Google Cloud TPU to run sentence transformers like BERT

Python Developer for Universality, Warsaw, Poland (Jan 2020-May 2020)

- Worked on a project regarding implementation of education material regarding Python for students and teachers
- Wrote tasks in Python to be solved by students and an automatic method of checking if solution is correct for the convenience of the teacher

## Projects

LISSA - Language Interface for Scientific Search Assistance - a University(TUM) practical project

- This project consists of building a conversational based agent which specialises in NLP topics. The goal is to handle different queries from the users and explain topics and provide scientific papers if needed.

Evaluating texts generated by LLMs - Interdisciplinary Project in University(TUM)

- The goal of this IDP is to create a scoring function that gives a good score to good feedback and vice versa as seen from the human perspective.
- Based on some decided parameters to score feedback, the plan is to incorporate human feedback and use RLHF to train a language model that can generate text which maximises this score.
- In progress - this project will end in October 2023

CERN - ALICE Data Visualisation Thesis

- Bachelor Thesis in progress regarding Data Visualisation of the ALICE experimenting being conducted in CERN, Switzerland
- Working with Python, pythreejs, js, react and will potentially use ROOT Framework and AI algorithms for prediction, if needed, in the future

Army Act Project (Summer 2020)

- The NLP project I worked on in pradhi.ai. Started out by data cleaning and taking raw data and making it more structured using Pandas and thereby using BERT and semantic search for answer finding purposes.
- Using technologies like Pandas (Py), Tensorflow, BERT sentence transformer and advanced data science algorithms.

Gocery (Summer 2020)

- Slot-booking system for grocery stores in order to facilitate social distancing
- Submitted at the HackYeah Online, in a team of 3
- Made using Flask and the Google Maps API

Penguin group project in C

- A penguin game, originally know as "Hey! That's my fish" written in C It has an Automatic mode and also an Interactive mode.

Basketball team manager in c++

- An elaborate program to make teams, assign coaches, make fan clubs and many other features that are required for organising a basketball league.

#### OTHER PROJECTS

- Quite a few of other universities projects have been completed a a part of my coursework. The languages range from Shell, Assembly and C to Python, Qt, Javascript.
- A bachelors subject about Artificial Intelligence had projects regarding regression, classification, training neural networks, solving games like tic tac toe using game theory and deterministic algorithms

#### Coursework in masters - an overview

Machine Learning | Intro to Deep Learning | Natural Language Processing | Efficient Algorithms and Data Structures | Advanced NLP | Blockchain based Systems Engineering

#### Coursework in bachelors - an overview

Operating Systems | Intro to Artificial Intelligence | Object Oriented Programming | Data Structures and Algorithms | Databases | Software Engineering | Languages, Automata and Computation | Computer Graphics | Numerical Methods | Advanced Calculus | Advanced Transition and Discrete math | Computer Networks | ML and Deep Learning | Natural Language Processing

#### Technical Skills

Python and R | Zsh and Bash | C/C++ | SQL | Flask | LATEX | Git | Algorithms and Data Structures | Software Design Patterns | Machine Learning | Natural Language Processing | Pandas | Tensorflow | BERT | SQL | AWS | MongoDB | threejs | Ruby on Rails | Scikit learn | PyTorch | Milvus

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