Pinki Kumari
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Department of Computer Science and Engineering
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Education

Degree	Institution	CPI	Year
MTech	IIT Gandhinagar	7.6	2022 - Present
BTech	VGI Microsoft, Greater Noida (AKTU)	8.33	2016 - 2020

Experience

- **Teaching Assistant, Indian Institute of Technology Gandhinagar:**
  - **Computing(ES112):** Designing and conducting lab tasks and checking assignments. **[Aug 2023 - Present]**
  - **Aarohan(FP601):** Managed orientation of 450+ students with a team of 25 TAs and was in the backend team, including five people. **[July 2023]**
  - **Data-Centric Computing:** Conducted labs and tutorials on topics of ML, EDA, Algorithms **[Jan - July 2023]**
  - **Computer Networks(CS433):** Handled a class of 75+ students, conducted quizzes, checked assignments, and assessed final project presentations. **[Aug - Nov 2022]**

- **Summer Intern, ThirdAI Corp.:** **[June 1st - July 31st, 2023]**
  - Utilized ThirdAI's Universal Deep Transformer (UDT) for pre-training, training, and fine-tuning LLMs on CPU instead of GPU.
  - Embedded evaluation system for benchmarking various models like BERT, Open AI, LLaMA, and BOLT.

Skill Summary

- **Languages:** Python, SQL, HTML5, CSS
- **Tools and Frameworks:** Kaggle, DrivenData, Git, Flask, VS Code
- **Data Science Libraries:** PyTorch, TensorFlow, Keras, Matplotlib, Seaborn, Scikit-Learn, Numpy, Pandas, JAX
- **General:** Machine Learning, Deep Learning, Natural Language Processing, Prompt Engineering

Projects

- **Hashing Algorithms for efficient training of LLMs and applying LSH on NTK:** **[Jan 2023 - Present]**
  - The objective is to probabilistically infer desired outputs without the need for explicit training of neural networks. This involves the construction of the NTK matrix(H*).
  - Utilization of Locality Sensitive Hashing (LSH) in conjunction with Neural Tangent Kernels (NTK) under the guidance of Prof. Anirban Dasgupta.
  - Applied concepts from Optimization Theory in Machine Learning and incorporated neural network principles.

- **Online Maintenance Complaint Portal:** **[Jan - April 2023]**
  - Designed a website for IIT Gandhinagar and created an Online Maintenance Complaint Portal that addressed existing challenges, including page reloading, authentication, and potential security vulnerabilities.
  - The task involved enhancing user experience and fortifying the website against potential threats.
  - Proficiently utilized SQL, Python, Flask, HTML5, and CSS.

- **Machine Learning:** **[Jan - Oct 2023]**
  - Trained a Named Entity Recognition (NER) model using spaCy to extract legal entities from legal documents. The trained model can recognize entities such as organizations, persons, dates and judges in legal texts.
  - Developed a Python library named "customized-decision-tree-library-0.1" for creating decision trees.
  - Created a Streamlit application to visualise the effects of cross-covariance by a 3-sigma ellipse plot.

- **Contact List Search:** **[BTech Project]**
  - Developed a user-friendly web application for contact management, featuring contact addition and deletion capabilities using buttons.
  - Implemented autocomplete functionality to enhance user experience, providing real-time contact name suggestions while typing.

Achievements

- Secured All India Rank (AIR) 61st (Armed Forces Quota) in Bihar Combined Entrance Competitive Exam (BCECE)
- Qualified for the GATE (CS) twice (2020, 2021)
- Solved 350+ questions on LeetCode, with a contest ranking 1447/461,271.
- Solved Questions on GeeksForGeeks, CodingNinjas, etc.