Alek Lakra

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Objective

Motivated and curious Computer Science student with a growing interest in Machine Learning and Data Science. Currently building a solid foundation in Python programming, statistics, and key ML concepts like regression, classification, and clustering. Familiar with tools such as NumPy, Pandas, and Scikit-learn, and actively learning through hands-on projects and online courses. Eager to apply and expand my skills in a practical environment through an internship or placement opportunity. Known for being a quick learner, team player, and someone who enjoys solving problems through code and data.

Education

Indian Institute of Information Technology, Sonepat
Sonipat, Haryana Bachelor of Technology in Computer Science   *[Expected Graduation: June 2026]*
CGPA: 7.0428/10 (aggregated till 6th semester)

Experience

Centre for Development of Advanced Computing (C-DAC)
Project Intern   *[March 2025- September 2025]*
Engineered and fine-tuned a DeBERTa NLP model using PyTorch and Hugging Face to automatically detect parallelization opportunities in C/C++ source code. Contributed to an AI tool that provides developers with actionable advice on applying OpenMP pragmas to improve high-performance computing workflows.

Technical Skills

Programming Languages: C++, Java, Python, SQL
Web Technologies: HTML, CSS, JavaScript, React.js, Tailwind
Tools and Platforms: Git, GitHub, AWS, Linux, Jupyter Notebook, Colab
Machine Learning: Pandas, Numpy, Scikit-learn, Matplotlib, Seaborn

Projects

— **AutoPragma** [*Python, Hugging Face Transformers, Scikit-learn, Pandas*]   [GitHub Link]
  - Developed a machine learning model to automatically detect and classify parallelizable loops within C/C++ source code.
  - Fine-tuned a DeBERTa-small model on the OpenMP Plus dataset for binary classification, distinguishing between loops that can and cannot be safely parallelized.
  - The model analyzes code syntax aand structure to predict where OpenMP (#pragma omp) directives can be inserted to improve performance.
  - Aims to streamline the process of performance optimization by automating a critical step in legacy code parallelization, reducing the need for manual analysis.

— **CodeCanvas** *[HTML, CSS, JavaScript]*   [GitHub Link]
  An environment designed for real-time web development with a simple layout.
  - Includes three code panels for HTML, CSS, and JavaScript.
  - The live preview panel updates in real time as the code is written.
  - Useful for beginners and web developers seeking immediate visual feedback.

Relevant Coursework

Data Structures, Algorithms, Database Management, Software Engineering, Design and Analysis of Algorithms, Web Development, Structured Query Language, Machine Learning.