**Oilsands Research**

* **Upstream:** Involves finding and extracting crude oil and natural gas from the earth.
* **Midstream:** Focuses on transporting, storing, and processing extracted oil and gas.
* **Downstream:** Includes refining, distributing, and marketing of petroleum products to consumers.

**CNRL Research**

Canadian Natural Resources Limited (CNRL) is a significant player in the oil and natural gas industry, particularly in Canada. They have a diversified portfolio of assets across North America, the UK North Sea, and Offshore Africa. CNRL focuses on acquiring, exploring, developing, producing, marketing, and selling crude oil, natural gas, and natural gas liquids. Their product range includes light and medium crude oil, primary heavy crude oil, Pelican Lake heavy crude oil, bitumen (thermal oil), and synthetic crude oil (SCO)

Regarding their current operations, CNRL is known for being one of **the largest independent natural gas producers in Canada** and has significant development opportunities within their thermal in situ oil sands asset portfolio. They also have world-class Oil Sands Mining and Upgrading assets with substantial reserves. Additionally, they are involved in **midstream activities** in Western Canada, including an electricity co-generation system and pipeline operations.

As for oil sands, this is an industry where bitumen, a type of **heavy, sticky oil**, is extracted from sand and clay. These oil sands are found in several locations around the world, with large deposits in Alberta, Canada. The extraction process is more complex and costly than conventional oil drilling, and it also has significant environmental impacts, particularly in terms of water use and greenhouse gas emissions.

**Role of a Data Analyst/Business Analyst at CNRL**

Your role as a Data Analyst/Business Analyst in this context would likely involve working with large datasets to **optimize operations, analyze market trends, and support decision-making processes** within the company. With your background in data analytics engineering, you would be well-positioned to contribute to these areas, especially considering the complexity and scale of CNRL's operations and projects.

**Points**

* **Company Overview:** Canadian Natural Resources Limited (CNRL) is a major independent crude oil and natural gas producer globally.
* **Headquarters:** Located in Calgary, Alberta, Canada.
* **Main Focus:** Specializes in the exploration, development, production, and marketing of crude oil, natural gas, and natural gas liquids.
* **Operating Regions:** Primarily active in Western Canada, the North Sea, and Offshore Africa.
* **Asset Diversity:** Manages a varied portfolio including light and heavy oil, oil sands mining, and onshore and offshore gas.
* **Technology and Innovation:** Known for its effective use of technology to improve efficiency and reduce environmental impacts.
* **Sustainability:** A leader in sustainable practices in the energy sector.
* **Role of Data Analyst/Data Scientist:** Involves analyzing large datasets to optimize operations, enhance decision-making, and support the company's technological and sustainable initiatives.

**Upstream Operations:**

* CNRL is primarily focused on upstream operations in the oil and natural gas industry.
* They are a significant independent natural gas producer in Canada.
* CNRL has extensive thermal in situ oil sands assets.
* They also have world-class Oil Sands Mining and Upgrading assets, which are part of upstream operations.

**Midstream Operations:**

* CNRL has some involvement in midstream activities, primarily in Western Canada.
* This includes operating an electricity co-generation system.
* They are also involved in pipeline operations related to transporting, storing, and processing extracted oil and gas.

**Downstream Operations:**

* CNRL's core focus and expertise lie in upstream operations.
* They are not heavily involved in downstream operations, such as refining, distributing, and marketing petroleum products to consumers.

**Interview questions**

Based on the information from your resume, here are tailored answers for your interview questions:

1. **Tell me about yourself**

As an aspiring Data Analyst, my academic and professional journey is characterized by a deep commitment to data-driven problem solving. At Northeastern University, I delved into Python, SQL, and other analytics tools, building a robust foundation in data science. My internship at Bonrix Software Systems was a highlight, where I implemented various machine learning. My stint at NITK-STEP further refined my analytical skills, particularly in handling real-world data challenges. I thrive on transforming complex data sets into actionable insights and am passionate about contributing to a team that values innovative data solutions.

1. **Why should we hire you?**

My blend of academic grounding and practical experience sets me apart. At Bonrix Software Systems, I not only developed a high-accuracy microcontroller application but also demonstrated my ability to apply theoretical knowledge to practical challenges. This experience, combined with my strong analytical skills and a proven track record in delivering effective data-driven solutions, aligns perfectly with the needs of your company. I am adept at turning data into strategic insights, a skill that I believe will be invaluable to your team.

1. **Where do you see yourself in five years?**

In five years, I envision myself as a key player in the data analytics field, contributing significantly to strategic decisions through insightful data analysis. My aim is to continue enhancing my skills, particularly in advanced analytics and AI, and to evolve into a leadership role. I see myself guiding teams to leverage data in innovative ways, driving impactful business decisions, and staying at the forefront of the data analytics revolution.

1. **Why would you like to join our company?**

Your company's reputation for pioneering in the field of data analytics is a major attraction for me. The alignment of your strategic use of data with my professional skills and goals is perfect. I am particularly excited about the prospect of working on challenging projects that have a direct impact on business outcomes, and the opportunity to be part of a team that is shaping the future of data-driven decision making.

1. **What excites you the most about our company?**

The most exhilarating aspect of your company is its commitment to innovation in data analytics. The dynamic environment promises not just professional growth but also the chance to work on cutting-edge projects. The prospect of applying my data science and machine learning expertise in such a vibrant setting is a compelling reason for my enthusiasm to be a part of your team.

1. **How do you prioritize and manage multiple tasks or projects with tight deadlines?**

My approach to managing multiple projects with tight deadlines is methodical and prioritized. At NITK-STEP, I effectively managed several data analysis projects by setting clear priorities and adhering to deadlines, ensuring an organized and efficient workflow. Regular communication with stakeholders and being adaptable to changing requirements were key. This experience honed my ability to juggle multiple tasks while maintaining high-quality standards.

1. **Give an example of a situation where you had to work collaboratively with a team to solve a problem.**

My experience at Hawkscode Software Pvt. Ltd. is a testament to my collaborative skills. Here, I led a team to develop analytics strategies for credit card companies during the COVID-19 pandemic. We worked together to identify and implement solutions for customer retention. This experience underscored the importance of teamwork, effective communication, and leveraging individual strengths for collective success.

1. **Can you describe a time when you had to communicate complex data findings to a non-technical audience? How did you ensure they understood the insights?**

During my internship at ICT Kanpur, I was tasked with presenting complex data findings on Titanic survivors to a non-technical audience. I focused on simplifying the data through visualizations and layman's terms, ensuring that the audience could easily grasp the insights. This experience taught me the importance of clear communication and the ability to tailor presentations to different audiences.

1. **How do you stay updated with the latest trends and advancements in the field of data analysis?**

To stay abreast of the latest trends in data analysis, I engage in continuous learning through webinars, professional forums, and online courses. Participating in the data science community, especially on platforms like GitHub, keeps me informed about the latest developments and best practices in the field. This commitment to lifelong learning is crucial in a rapidly evolving field like data analysis.

1. **Describe a situation where you had to deal with ambiguous or incomplete data. How did you handle it?**

During my project at NITK-STEP, I encountered ambiguous and incomplete stock rate data. I tackled this challenge by meticulously cleaning and validating the data. I employed statistical methods to manage missing information, ensuring the reliability of our analysis. This experience underscored the importance of rigor and precision in handling data, especially when it forms the basis for critical business decisions.

**Resume**

**Professional Experience**

**Data Analyst Intern at Bonrix Software Systems (Jan. 2022 – May 2022)**

Absolutely. During my internship at Bonrix Software Systems from January to May 2022, I undertook a significant project focused on developing a microcontroller application for facial detection and recognition. The Situation involved the need to enhance facial recognition capabilities using OpenCV. My Task was to implement two machine learning algorithms, namely the Decision Tree and Random Forest, to improve accuracy. To accomplish this, I acted by meticulously programming and fine-tuning the algorithms, optimizing their performance. Additionally, I collaborated closely with two major clients to understand their preferences, tailoring the product to their specific needs. As a Result of these efforts, I successfully achieved a maximum accuracy rate of 91% in facial detection, exceeding initial expectations. This experience not only honed my technical skills in machine learning and OpenCV but also highlighted my ability to collaborate effectively with clients to deliver tailored solutions.

**Data Insights Intern at NITK-STEP (Jul. 2021 - Aug. 2021)**

Absolutely. During my tenure as a Data Insights Intern at NITK-STEP in July-August 2021, I was tasked with analyzing and visualizing stock data from the Bombay Stock Exchange. The Situation involved working with historical stock rates, and my Task was to create comprehensive Tableau dashboards integrating Python libraries such as Numpy and Sklearn, as well as utilizing MySQL for efficient data management. Taking Action, I meticulously mapped out and implemented the Decision Tree and Random Forest algorithms to predict future stock rates. Through this process, I achieved a remarkable 90% accuracy rate in forecasting future stock prices based on historical trends. This experience not only enhanced my proficiency in data analytics tools but also showcased my ability to derive valuable insights crucial for informed decision-making in the financial domain

**Artificial Intelligence Intern at Hawkscode (Jun. 2020 - Jul. 2020)**

During my internship at Hawkscode, from June to July 2020, I spearheaded projects addressing the challenges faced by credit card firms during the COVID era. My responsibilities included predicting customer attrition and optimizing credit limits using advanced analytics. I navigated complex project dynamics, enhancing communication with both my team and stakeholders. My role emphasized mastering data-driven decisions using Logistic Regression and Linear Regression, contributing significantly to strategies for enhanced customer retention in the credit industry.

**Artificial Intelligence Intern at ICT Kanpur (Mar. 2020 - Apr. 2020)**

In my role as an Artificial Intelligence Intern at ICT Kanpur, from March to April 2020, I engaged in inspecting and applying various machine learning algorithms like Support Vector Machine, Decision Tree, and Random Forest. A notable project was evaluating Titanic survivors' data using Python and data mining techniques such as Sklearn, Matplotlib, and Pandas. This project aimed to explore trends among survivors based on gender, class, age, and location on the ship. I developed a model to predict the likelihood of survival in the Titanic tragedy, achieving a remarkable 92% accuracy. This experience enhanced my skills in data analytics and model building in historical contexts.

**Projects**

**1. Worldwide Labour Migration Analysis using LinkedIn Data (2023)**

In 2023, I led a project analyzing worldwide labour migration using LinkedIn data. We focused on analyzing and visualizing migration trends based on home and target countries, industries, and skills. A key achievement was evaluating net migration trends across 180 countries, which helped us understand global labour market dynamics. As a team leader, I guided a group of five, ensuring meticulous model testing and generating valuable insights. This project showcased my leadership abilities and my skills in Python for data analysis and visualization.

**2. Multipurpose IOT-Based Camera Using Deep Learning (2022)**

In 2022, I developed a multipurpose IoT-based camera using deep learning. The model, built with OpenCV and Machine Learning, achieved a 91% accuracy in detecting various parameters such as masks, eyes, and head pose. We aimed to deploy this model in diverse settings like proctored exams, classrooms, and driver monitoring systems to assess attentiveness. This project was significant in showcasing my technical skills in machine learning and my ability to execute market expansion plans.

**Publications**

**1. Shopping Model for COVID-19 Pandemic (2020)**

In 2020, I pioneered a model to assist with shopping during the COVID-19 pandemic. This model utilized K-means clustering to locate nearby shops with specific items and provided real-time updates on store occupancy. We achieved a 90% accuracy rate, leveraging OpenCV for this purpose. This model was presented at the International Conference on Sustainable Communication Networks and Applications (ICSCN) in 2020, highlighting my innovation in addressing real-world problems during a crisis.

**2. Automated Pipe-Cleaning Robot (2020)**

In 2020, I developed a robot designed to clean the interior of pipes of varying diameters, particularly useful during the COVID-19 pandemic. The robot used OpenCV and the Random Forest Algorithm to detect and predict dirt areas in pipes, achieving a 91% accuracy rate. This innovation was crucial in maintaining hygiene and safety in environments where human intervention was limited, showcasing my ability to apply AI in practical and impactful ways.

**Competitions**

**1. Responsible AI Symposium at Northeastern University, Vancouver (2023)**

At the Responsible AI Symposium held at Northeastern University, Vancouver in 2023, I was awarded for my research in harnessing the potential of Responsible AI to improve healthcare. Competing against 40 other participants, my work stood out due to its extensive research and dedication to applying AI responsibly in a critical sector like healthcare.

**2. Chai Time Hack (2022)**

In the Chai Time Hack of 2022, our team secured the first position by developing an application for detecting store occupancy during the COVID-19 pandemic. We used Python and Bluetooth technology to create a solution that was not only innovative but also immensely relevant in managing social distancing and public health safety during the pandemic.