Industrial Training Mid sem Evaluation

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About TBRL

1.TBRL is situated in Chandigarh, India, operating under DRDO.

2. It specializes in terminal ballistic research, studying projectiles, explosives, and materials under extreme conditions.

3. TBRL partners with national and international organizations for research and technology advancement.

4. Its work contributes to defense technology development, including armor systems and munitions, benefiting defense personnel and assets.

Standard Enthalpies of Formation, ΔH_f°, at 298 K

Formula	ΔH_f° (kJ/mol)	Substance	Formula	ΔH_f° (kJ/mol)
$C_2H_2(g)$	226.7	Hydrogen chloride	$HCl(g)$	−92.30
$NH_3(g)$	−46.19	Hydrogen fluoride	$HF(g)$	−268.6
$C_6H_6(l)$	49.0	Hydrogen iodide	$HI(g)$	25.9
$CaCO_3(s)$	−1207.1	Methane	$CH_4(g)$	−74.8
$CaO(s)$	−635.5	Methanol	$CH_3OH(l)$	−238.6
$CO_2(g)$	−393.5	Propane	$C_3H_8(g)$	−103.85

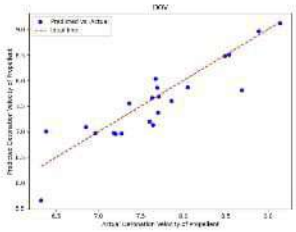
My Role

1. I work as a Machine Learning (ML) intern at TBRL, focusing on High-Energy Materials (HEMs) research.

2. My role involves enhancing understanding of HEM properties and optimizing synthesis processes using ML algorithms.

3. I contribute to predicting performance characteristics and accelerating material design iterations through data-driven approaches.

4. My work aims to facilitate advancements in defense technology by leveraging ML in HEM-related research and development.



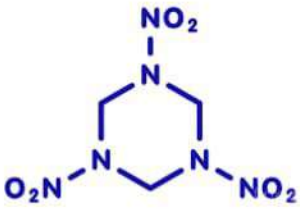
Work so Far

1. Researched extensively in the high-energy material domain to understand their properties and behavior.

2. Compiled and curated datasets specifically focused on High-Energy Materials (HEMs) for analysis and modeling purposes.

3. Developed predictive models using machine learning techniques to estimate detonation velocity and heat of formation for various HEM compositions.

4. Contributed to advancing the understanding and predictive capabilities in HEM research, aiding in the development of safer and more efficient defense technologies.



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