🔬 Project Code Summary and Contribution (NVIDIA Morpheus)

These files showcase my experience in designing a real-time data streaming pipeline using the NVIDIA Morpheus framework. Although they may contain incomplete code, they demonstrate my **logic and intent to solve technical challenges with a business mindset.**

1. 68-router.ipynb (Data Routing Design)

Section	Problem the Code Addressed	Non-Major's Insight & Contribution
Core Problem	The technical challenge of **efficiently classifying and routing** high-volume, real-time data streams to appropriate processing paths. (Routing Optimization)	**[Efficiency Acumen]** Understood the business importance of **zero-latency data delivery** and applied Morpheus's RouterStage to design a system capable of **automatically classifying customer inquiry types** for channel assignment.
Coding Attempt	Attempted to design a **non-linear pipeline architecture** using RouterStage to segment data based on metadata tagging.	**[System Structure Comprehension]** Demonstrated the ability to understand and design the **system's 'logical flow,'** moving beyond basic coding syntax.
Outcome Interpretation	Used **epoch and batch size optimization** to maximize performance within limited resources, thereby developing **practical optimization skills.**	**[Practical Adaptability]** Experience in optimizing performance under constraint enhances understanding of **real-world service deployment challenges.**

2. 70-capstone-exercise.ipynb (Capstone: MIMO Pipeline

Construction)

Section	Problem the Code Addressed	Non-Major's Insight & Contribution
Core Problem	The complex task of **simultaneously processing two distinct data stream types** (GPU Telemetry, Network Packets) to detect **Nefarious Activity (CyberAI)** in real-time.	**[Integrated Thinking]** Suggested applying this to complex business problems, such as **simultaneously analyzing diverse customer data** (purchase history, inquiry type) to predict **'Customer Churn.'**
Coding Attempt	Designed the core structure of a **CyberAI pipeline** using Multi-Input/Multi-Output (MIMO) methodology, including connecting to the Triton Inference Server.	**[Business Definition]** Demonstrated strong **planning acumen** by clearly tying the technical goal (MIMO pipeline) to a precise business objective: **'Fraud/Malicious Activity Detection.'**
Outcome Interpretation	Acknowledged incomplete code but emphasized learning the complexity of **building integrated data processing systems** and the critical need for **Development Team collaboration.**	**[Self-Directed Learning]** Proved strong self-learning capacity by utilizing **various AI tools** (Gemini, VS Code) to rapidly analyze the root cause of complex coding errors.