**MDM2 – Case Study: Intelligent Systems in Production  
One‑Page Proposal**

|  |  |
| --- | --- |
| **Team** | **8** |
| **Members** | Anandu Hari,Teja Tadisetty, Boshi Zhao |
| **Project Title** | NLP for Quality Control Reports in Production Line |
| **GitHub Repository URL** | https://github.com/Ananduhari98/PPT-for-CS-int-system |
| **Contact Email** | anandu.hari@stud.th-deg.de |
| **Industrial Application (target domain/use‑case)** | REDUCE THE NUMBER OF DEFECTIVE PRODUCTS PRODUCED DURING MANUFACTURING USING AI BASED DEFECT DETECTION SYSTEM |
| **Keywords (3–6)** | NLP, Defects, Detection |
| **Submission Date (YYYY‑MM‑DD)** | 2025-10-19 |
| **Gant Chart** | Make a Gantt chart outlining all project phases up to the final |

|  |  |
| --- | --- |
| 1. **Problem Statement & Measurable Outcomes (3–4 sentences)**   **The problem is that checking bottle or production quality is slow and more possible errors. Here we use AI to spot defects automatically and find trends from operator reports** | **State the concrete problem in production/logistics. Define 2–4 measurable outcomes (KPIs).**   * **More accurate defect detection** * **More faster inspection than usual** |
| 1. **Motivation & Industrial Relevance (2–3 sentences)**   **This helps factory operators and quality teams reduce waste, costs etc. It matters now because AI tools like NLP libraries are cheap, fast and easy to use.** | Who benefits and what value is created? Why is this important now? |
| 1. **Related Work Snapshot (2–3 key references)**  * **MV Tec AD:- dataset for defect detection in factories.** * **Tutorials / Datasets:- used to train and test sources** | Cite the most relevant prior work and the gap your project addresses. |
| 1. **Method & Feasibility (≤6 sentences)**  * **Use images both good and defective and text reports.** * **Clean and prepare datasets** * **Detect defects like scratches, leaks etc** * **Use NLP to read operator noes and find issues.** * **Measre accuracy, reliability etc** | Outline data sources, search/screen protocol, analysis/synthesis approach, and expected artifacts. |
| 1. **Milestones & Timeline (short table/list)**   **P1- Define problem and collect data- Oct 20-31 2025**  **P2- Build first model- Nov 1-14 2025**  **P3- Improve and test models- Nov 15-30 2025**  **P4- Combine -Dec 1-14 2025**  **P5- Final report and demo- Dec 15-23 2025** | List milestones aligned with course phases (P1–P5) with target dates. |
| 1. **Risks & Ethics (1–2 sentences)**   **Unbalanced data and wrong predictions. We will use only safe, open data, check for bias andgive credit to all sources.** | Consider data privacy, citation/attribution, bias, and feasibility constraints. |

*Phase 1 rubric (15%): Team & GitHub (2%), On‑time (2%), Topic & Proposal (5%) — Industrial Application, Problem+Outcomes, Feasibility+Timeline; Presentation (6%).*