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| **SCHOOL OF COMPUTER SCIENCE AND ARTIFICIAL INTELLIGENCE** | | | | | **DEPARTMENT OF COMPUTER SCIENCE ENGINEERING** | | | |
| **Program Name:** B. Tech | | | | **Assignment Type: Lab** | | | **AcademicYear:**2025-2026 | |
| **Course Coordinator Name** | | | | Venkataramana Veeramsetty | | | | |
| **Instructor(s)Name** | | | | 1. Dr. Mohammed Ali Shaik  2. Dr. T Sampath Kumar  3. Mr. S Naresh Kumar  4. Dr. V. Rajesh  5. Dr. Brij Kishore  6. Dr Pramoda Patro  7. Dr. Venkataramana  8. Dr. Ravi Chander  9. Dr. Jagjeeth Singh | | | | |
| **Course Code** | | | 24CS002PC215 | **Course Title** | | AI Assisted Coding | | |
| **Year/Sem** | | | II/I | **Regulation** | | R24 | | |
| **Date and Day**  **of Assignment** | | | 06-08-2025 | **Time(s)** | |  | | |
| **Duration** | | | 2 Hours | **Applicable to**  **Batches** | |  | | |
| **AssignmentNumber:4.5**(Present assignment number)/**24**(Total number of assignments) | | | | | | | | |
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|  | **Q. No.** | **Question** | | | | | | ***ExpectedTime***  ***to complete*** |  |
|  | 1 | **Lab 4: Advanced Prompt Engineering: Zero-shot, one-shot, and few-shot techniques**  **Objective:** To explore and compare Zero-shot, One-shot, and Few-shot prompting techniques for classifying emails into predefined categories using a large language model (LLM).  Suppose that you work for a company that receives hundreds of customer emails daily. Management wants to automatically classify emails into categories like "Billing", "Technical Support", "Feedback", and "Others" before assigning them to appropriate departments. Instead of training a new model, your task is to use prompt engineering techniques with an existing LLM to handle the classification.  Tasks to be completed are as below  1. **Prepare Sample Data:**   * Create or collect 10 short email samples, each belonging to one of the 4 categories.   **SAMPLE EMAILS:**  💳 Billing  - "I noticed an unexpected charge on my account and would appreciate clarification."  - "Could you please send me a copy of the latest invoice for my records?"  🛠 Technical Support  - "I'm currently unable to log into my account despite multiple attempts."  - "The app crashes every time I try to open it—can you assist?"  💬 Feedback  - "I really appreciate the prompt support I received—thank you!"  - "The new interface looks great, but I find it a bit harder to navigate."  - "Your service has been consistently reliable, and I wanted to acknowledge that."  📁 Others  - "I’m reaching out to explore a potential collaboration opportunity."  - "Could you confirm receipt of my job application submitted last week?"  - "I’d like to schedule a meeting to discuss our upcoming project."  2. **Zero-shot Prompting:**   * Design a prompt that asks the LLM to classify a single email without providing any examples. * Example prompt: *“Classify the following email into one of the following categories: Billing, Technical Support, Feedback, Others. Email: ‘I have not received my invoice for last month.’”*   **PROMPT :** Type your email message.  The program will read your message and tell you what type it is:  Billing, Technical Support, Feedback, or Others.    **3. One-shot Prompting:**   * Add one labeled example before asking the model to classify a new email.   Prompt:  Type your email message:  "I was charged twice for my subscription. Please fix this."  Email classified as: Billing  Provide a code which gives output similar as given example and claasify them as billing,technical support,feedback,others.    4. **Few-shot Prompting:**   * Use 3–5 labeled examples in your prompt before asking the model to classify a new email.   **PROMPT:**  Type your email message:  The program will read your message and tell you what kind it is:  Billing, Technical Support, Feedback, or Others.  Example:  Type your email message: "The app crashes every time I try to open it—can you assist?"  Email classified as: Technical Support.  2. "Could you confirm receipt of my job application submitted last week?  Email classified as:others.  3. "I was charged twice for my subscription. Please fix this."  Email classified as: Billing  provide me code and let user give email as input.    5. **Evaluation:**   * Run all three techniques on the same set of 5 test emails. * Compare and document the accuracy and clarity of responses.     SUMMARY:  Instead of scanning for specific words, this method:   * Understands the **intent** behind the message * Summarizes the core issue or request * Assigns a category based on that summary   **Requirements:**   * VS Code with Github Copilot or Cursor IDE and/or Google Colab with Gemini   **Deliverables:**   * A .txt or .md file showing prompts and model responses. * A comparison table showing classification accuracy for each technique. * A short reflection on which method was most effective and why   . | | | | | | 08.08.2025 EOD |  |