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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.   Prompt:   * Generate 10 short email samples, each belonging to one of the 4 categories. categories like "Billing", "Technical Support", "Feedback", and "Others"   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:*  Generate a python code that should take input from user and user provide a short mail and it should classify which category that mail belongs to    **3. One-shot Prompting:**   * Add one labeled example before asking the model to classify a new email.   Prompt:  Generate a python code that should take input from user and user provide a short mail and it should classify which category that mail belongs to  *Email: ‘I have not received my invoice for last month.’*    4. **Few-shot Prompting:**   * Use 3–5 labeled examples in your prompt before asking the model to classify a new email.   Prompt:  Generate a python code that should take input from user and user provide a short mail and it should classify which category that mail belongs to  Email: Can you help me update my payment method?  Email: I'm unable to login to my account  Email: I love the new dark mode feature!  Email: Can I get a certificate for attending the seminar? Email: Why was I charged twice this month?    5. **Evaluation:**   * Run all three techniques on the same set of 5 test emails. * Compare and document the accuracy and clarity of responses.   **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 |  |