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# Internship project:

## Objective # A:

1. Contribution towards standards
   1. Identified O-RAN NGRG RS-02 whitepaper: [Agentic Telco: Threat Landscape for 6G Networks Discussion (RR). - next Generation Research Group - Confluence.](https://oranalliance.atlassian.net/wiki/spaces/NGRG/pages/4026728538/Agentic+Telco+Threat+Landscape+for+6G+Networks+Discussion+RR+.)
   2. Link to draft whitepaper: [nGRG-RS04-RR-2025-05-06-Agentic-Comminication-Security-For-6G-Networks-v1\_0\_3.docx](https://tejasnet.sharepoint.com/:w:/r/sites/Project_interns/Shared%20Documents/PROJECT-INTERNS/nGRG-RS04-RR-2025-05-06-Agentic-Comminication-Security-For-6G-Networks-v1_0_3.docx?d=wec02e2bdd0de4d428e8cfdc27abe4a88&csf=1&web=1&e=VNO2mr)
2. Work items:
   1. Background study / research on Agentic Telco
   2. Framework for agentic communication security landscape
   3. Research methodology
      1. //How to approach the problem
      2. //Mind-map or flow-chart
   4. Use case analysis
      1. //List of potential use cases
      2. //How to integrate this with the research methodology
   5. Exploring use cases and key capabilities
      1. //List of key use cases
   6. Use case requirements and gap analysis
      1. //How to understand and fill the gaps
   7. Selecting 6G documents for MAS Security
   8. 6G capabilities for agentic communication security
3. Tasks:
   1. Review the draft whitepaper, prepare notes
      1. Internal presentation: TBD
   2. Do prior-art study of papers in this topic and identify background material
   3. Present the understanding on each topic [typically Monday]
      1. Topic: TBD, Internal Presentation dates: TBD
   4. Refine and rework on comments

## Objective # B:

1. Experiment with RAG framework for Telecom and identify potential contribution areas for O-RAN/nGRG research forums:
   1. Reference: [2404.15939](https://arxiv.org/pdf/2404.15939)
   2. <https://huggingface.co/datasets/netop/TeleQnA>
2. Work items:
   1. Understand state-of-the-art implementation, identify improvements for potential O-RAN/nGRG contribution.
3. Tasks:
   1. Study the paper and reference material.
   2. Prepare a slide deck describing the requirements, use case flow and implementation details.
   3. Replicate the setup in the personal laptop and show demo
   4. Identify bottlenecks, improvements and implement a specific case study.

## Objective # C:

1. Chatting with DB, using **offline** LLM models. Prepare a PoC for contribution to O-RAN/nGRG research forums.
   1. Reference: [Thinking and Acting - Build an AI Agent | MLExpert](https://www.mlexpert.io/v2-bootcamp/build-ai-agent)
   2. Reference: [Chat With Your Database! Build a Local SQL AI Agent to Query Databases (LangChain & Ollama) - YouTube](https://www.youtube.com/watch?feature=shared&v=ay_sYadoxgk)
2. Work items:
   1. Understand state-of-the-art LLM models that can chat with DB directly. These LLM models need to be “offline” with no access to internet.
   2. Identify use case for PoC; present an overview.
   3. Implement PoC.
3. Tasks:
   1. Do prior-art search on open-source utilities that can chat with DB inline with the references provide above.
   2. Prepare a slide-deck on the lay of the land with frameworks, utilities, design choices
   3. Implement a PoC on sample data (anonymized)