

## Project Planning Phase

### Product Backlog, Sprint Schedule, and Estimation

| Sprint No. | Duration (Weeks) | Start Date | End Date   | Goals / Deliverables                                       | Estimation (Person-Days) | Notes                                    |
|------------|------------------|------------|------------|--|--------------------------|--|
| Sprint 1   | 2                | 2025-04-16 | 2025-04-29 | Requirement analysis, environment setup, data collection   | 10                       | Setup network data capture tools         |
| Sprint 2   | 2                | 2025-04-30 | 2025-05-13 | Data preprocessing pipeline, feature engineering           | 12                       | Develop scripts for feature extraction   |
| Sprint 3   | 3                | 2025-05-14 | 2025-06-03 | Initial AI model development (classical ML baseline)       | 15                       | Train/test Random Forest, SVM            |
| Sprint 4   | 3                | 2025-06-04 | 2025-06-24 | Deep learning model design and prototyping                 | 18                       | LSTM/CNN models for anomaly detection    |
| Sprint 5   | 2                | 2025-06-25 | 2025-07-08 | Integration of detection engine with real-time data stream | 14                       | Connect models with data pipeline        |
| Sprint 6   | 2                | 2025-07-09 | 2025-07-22 | Alerting system and dashboard UI prototype                 | 12                       | Setup notification and visualization     |
| Sprint 7   | 2                | 2025-07-23 | 2025-08-05 | System testing, performance tuning, and documentation      | 12                       | Test for false positives, optimize speed |

|          |   |            |            |                                    |   |                               |
|----------|---|------------|------------|------------------------------------|---|-------------------------------|
| Sprint 8 | 1 | 2025-08-06 | 2025-08-12 | Final deployment and user training | 8 | Deploy system and train users |
|----------|---|------------|------------|------------------------------------|---|-------------------------------|

| Sprint No. | Start Date | End Date   | Milestone Description                           | Deliverables                           |
|------------|------------|------------|---|--|
| Sprint 1   | 2025-04-16 | 2025-04-29 | Project initiation, environment & data setup    | Data capture setup, requirements doc   |
| Sprint 2   | 2025-04-30 | 2025-05-13 | Data preprocessing pipeline ready               | Scripts, sample processed data         |
| Sprint 3   | 2025-05-14 | 2025-06-03 | Baseline AI models trained and validated        | Classical ML models, evaluation report |
| Sprint 4   | 2025-06-04 | 2025-06-24 | Deep learning models developed                  | Trained DL models, codebase            |
| Sprint 5   | 2025-06-25 | 2025-07-08 | Detection engine integrated with streaming data | Real-time detection prototype          |
| Sprint 6   | 2025-07-09 | 2025-07-22 | Alerting and dashboard prototype completed      | Alerts system, UI mockups              |
| Sprint 7   | 2025-07-23 | 2025-08-05 | System testing and optimization completed       | Test results, performance tuning       |
| Sprint 8   | 2025-08-06 | 2025-08-12 | Final deployment and user training              | Deployed system, training docs         |