# TEAM PLAN AND WORK DISTRIBUTION

Student Depression Analysis Project

P4DS Course - University Data Science Program

December 8-22, 2025

## 1 Team Member Information

| Student ID | Full Name | Primary Responsibility | Completion |
|---|---|---|---|
| 23122006 | Lưu Thượng Hồng | Machine Learning & Academic Analysis | 100% |
| 23122020 | Nguyễn Thiên Ấn | Data Preprocessing & Pressure Analysis | 100% |
| 23122034 | Lê Nguyên Khang | Data Exploration & Lifestyle Analysis | 100% |

Bảng 1: Team Member Roles

## 2 Work Breakdown by Member

### 2.1 Lê Nguyên Khang (23122034)

**Tasks:**

- Data exploration and quality assessment

- Correlation analysis and visualization

- RQ1-RQ3: Lifestyle Factors (Sleep & Diet analysis)

  **Deliverables:**

- notebooks/01_exploration.ipynb

- notebooks/02_lifestyle.ipynb

### 2.2 Nguyễn Thiên Ấn (23122020)

**Tasks:**

- Data preprocessing and encoding

- RQ4-RQ6: Pressure Analysis (Academic, Financial, Mental Health)

**Deliverables:**

- `src/preprocessing.py`

- `notebooks/preprocessing.ipynb`

- `notebooks/03_pressure.ipynb`

## 2.3   Lưu Thượng Hồng (23122006)

**Tasks:**

- Feature engineering and ML model development

- RQ7-RQ10: Academic & Work Analysis

  **Deliverables:**

- `src/features.py, src/models.py, src/run_pipeline.py`

- `notebooks/04_work.ipynb`

- `notebooks/modeling.ipynb`

- `results/` directory

# 3   Collaboration Process

## 3.1   Communication

- **Version Control:** Git/GitHub for code collaboration

- **Meetings:** Twice weekly (Monday/Thursday)

- **Daily Updates:** Group chat for progress and blockers

## 3.2   Workflow

- **Week 1 (Dec 8-14):** Individual development on assigned RQs and modules

- **Week 2 (Dec 15-21):** Integration, testing, and refinement

- **Final Day (Dec 22):** Documentation completion and presentation preparation

## 3.3   Quality Assurance

- Code review by at least one other team member

- Independent testing before integration

- Inline documentation and markdown explanations

- Reproducibility verification

# 4 Project Timeline and Key Milestones

## 4.1 Week 1: December 8-14, 2025

| Date | Milestones |
|------|------------|
| Dec 8-10 | **Setup & Initial Development** |
| | - Load and explore dataset (Khang) |
| | - Implement preprocessing functions (An) |
| | - Create feature engineering functions (Hong) |
| Dec 11-12 | **Core Analysis Begins** |
| | - Correlation analysis (Khang) |
| | - Preprocessing pipeline complete (An) |
| | - Start RQ7: CGPA vs Hours (Hong) |
| Dec 13-14 | **Week 1 Completion** |
| | - RQ1: Sleep Paradox analysis (Khang) |
| | - RQ4: Cumulative Pressure (An) |
| | - RQ8: High-Risk Degrees (Hong) |
| | - **Milestone 1: EDA & Preprocessing Complete** |

Bảng 2: Week 1 Timeline

## 4.2 Week 2: December 15-22, 2025

| Date | Milestones |
|------|------------|
| Dec 15-17 | **RQ Analysis Continuation** |
| | - RQ2: Diet Compensation (Khang) |
| | - RQ5: Satisfaction as Protective Factor (An) |
| | - RQ9-RQ10: Thresholds & Paradox (Hong) |
| Dec 18-20 | **Analysis & Model Development** |
| | - RQ3: Optimal Sweet Spot (Khang) |
| | - RQ6: Danger Threshold (An) |
| | - ML models implementation (Hong) |
| | - **Milestone 2: All RQs Complete** |
| Dec 21 | **Integration & Testing** |
| | - Merge all modules and notebooks |
| | - End-to-end pipeline testing |
| | - Model evaluation and comparison |
| | - **Milestone 3: Pipeline Integrated** |
| Dec 22 | **Finalization** |
| | - Complete README documentation |
| | - Prepare presentation slides |
| | - Final code review and cleanup |
| | - **Milestone 4: Project Delivery** |

Bảng 3: Week 2 Timeline

## 4.3   Key Deliverables Summary

| Milestone | Deliverables | Deadline |
|---|---|---|
| M1: EDA Complete | `01_exploration.ipynb`, correlation analysis | Dec 14 |
| M2: Preprocessing Done | `preprocessing.py`, cleaned dataset | Dec 14 |
| M3: RQ1-RQ3 Complete | `02_lifestyle.ipynb`, statistical tests | Dec 19 |
| M4: RQ4-RQ6 Complete | `03_pressure.ipynb`, logistic models | Dec 20 |
| M5: RQ7-RQ10 Complete | `04_work.ipynb`, feature engineering | Dec 20 |
| M6: ML Models Ready | `modeling.ipynb`, `models.py`, results | Dec 21 |
| M7: Pipeline Integrated | `run_pipeline.py`, end-to-end testing | Dec 22 |
| M8: Documentation | README.md, presentation slides | Dec 22 |
| **Final Submission** | **All code, notebooks, results, presentation** | **Dec 22** |

Bảng 4: Project Milestones and Deadlines

# 5   Team Commitment

All team members commit to:

- Complete assigned tasks on time

- Attend all scheduled meetings

- Support teammates when needed

- Maintain high code and analysis quality

- Contribute equally to final deliverables