Week 4 - 5 │ Foundational Knowledge Learning

2025-08-25 – 2025-09-07

1: Weekly Highlights

- Course study:
    Completed MITOCW 8.01SC Classical Mechanics and problem sets
    Completed MITOCW 18.01 Single Variable Calculus and problem sets
    MITOCW 18.02 Multivariable Calculus lecture 1 - 11 and problem set 1 - 3
    MITOCW 8.02 Electricity and Magnetism lecture 1 - 5
- Initial learning of MATLAB usage
- Continued advanced learning of Python and C++

2: Insights & Takeaways

- Gains:
    Gained preliminary mastery of single-variable calculus
        and classical mechanics fundamentals
    Continued developing an understanding of the chip design process
- Reflection:
    The Electricity and Magnetism course requires knowledge of multi-variable
    calculus and linear algebra; the course study sequence should be reasonably
    arranged.

3: Challenges & Open Questions

- Multi-variable calculus is closely tied to matrix operations; attention should be
    paid to keeping problem-solving processes standardized to facilitate extension
    to other practical problems.

4: Next 2 Weeks Plan

- Continue studying of MIT 8.02 and 18.02
- Prepare for systematic study of machine learning
- Continue learning C++ algorithm-related topics