Week 2 - 3 │ Foundational Knowledge Learning

2025-08-11 – 2025-08-24

1: Weekly Highlights

- Course study: MIT OCW 8.01SC Classical Mechanics 1 – 28, problem set 1 – 9; MIT OCW 18.01 Single Variable Calculus 5 – 24, problem set 4 – 5
- Initial setup of research workflow. Completed basic software installation and environment configuration
- Learned basic Git commands and Linux system usage
- Reading: *In-Datacenter Performance Analysis of a TPU* and *Machine Learning for Electronic Design Automation: A Survey*

2: Insights & Takeaways

- Gains: Learned fundamentals of single-variable calculus and classical mechanics; gained initial understanding of chip design flow
- Reflection: Advanced courses such as circuit design require knowledge of electromagnetism and multivariable calculus. I should keep up the pace and complete the prerequisites as soon as possible

3: Challenges & Open Questions

- Encountered difficulties in reading papers due to the large amount of specialized knowledge involved
- In *Machine Learning for Electronic Design Automation: A Survey*, came across many CAD/EDA tool terminologies that I can only roughly understand at the moment

4: Next 2 Weeks Plan

- Continue studying the remaining content of MIT 8.01SC and 18.01; begin electromagnetism and multivariable calculus
- Learn the basics of digital logic circuits
- Conduct in-depth reading of In-Datacenter Performance Analysis of a TPU and Machine Learning for Electronic Design Automation: A Survey