

Course Announcement for Fall 2024

MACHINE LEARNING FOR MATERIALS: FROM PCA TO LLMs

MSE 404/MSE504

Instructor: Sergei V. Kalinin

Times and locations: 10:20 am - 11:10 am MWF, Ferris Hall 502

Why This Course is a Must-Join:

- **Hands-On Machine Learning (ML) Experience:** Apply ML and AI to real-world problems in materials science, from **microscopy to physical characterization**
- **Comprehensive Learning:** Start with basics like **Principal Component Analysis** and advance to **cutting-edge Large Language Models**.
- **Industry Insights:** Discover how tech giants like **Amazon, Google and Meta** as well as leading chemical and materials companies are harnessing ML for their R&D and products.
- **Future-Ready Skills:** **Be a part** of the transition of ML from *in-silico* applications to real-world materials and device innovation, from cloudified tools to **automated laboratories**
- **Problem-Solving Approach:** **Learn** to work backwards from real-world problems to solutions, a **crucial skill** for your future career.



Who Should Attend?

- **Undergraduates:** Gain an edge for industrial roles or graduate studies by mastering ML early
- **Graduates:** Embark on an AI journey in the materials world and stand out in your field

Join us for an exciting exploration of ML's transformative potential in Materials Science. Unravel complex problems and uncover innovative solutions.



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Website: https://github.com/SergeiVKalinin/MSE_Fall2024

