Soft Matter Projects:

The projects are based on the 2024 Soft Matter book by van van Saarloos et al, published by Princeton University Press

All of the suggested projects are discussed in videos posted in the resources page of the book https://softmatterbook.online/resources-accompanying-chapters/

1. Non-equilibrium pattern formation
2. Complex Ginzgurg-Landau equation
3. Flow induced NI Transition
4. Self-assembly in biology
5. Topological excitations in 2D
6. Active matter and the Toner-Tu model
7. Fokker-Planck equation
8. Topological Mechanics
9. Metamaterials with negative Poisson ratio
10. Ericksen–Leslie theory for nematic liquid crystals. Reference: <https://doi.org/10.1201/9781315272580>