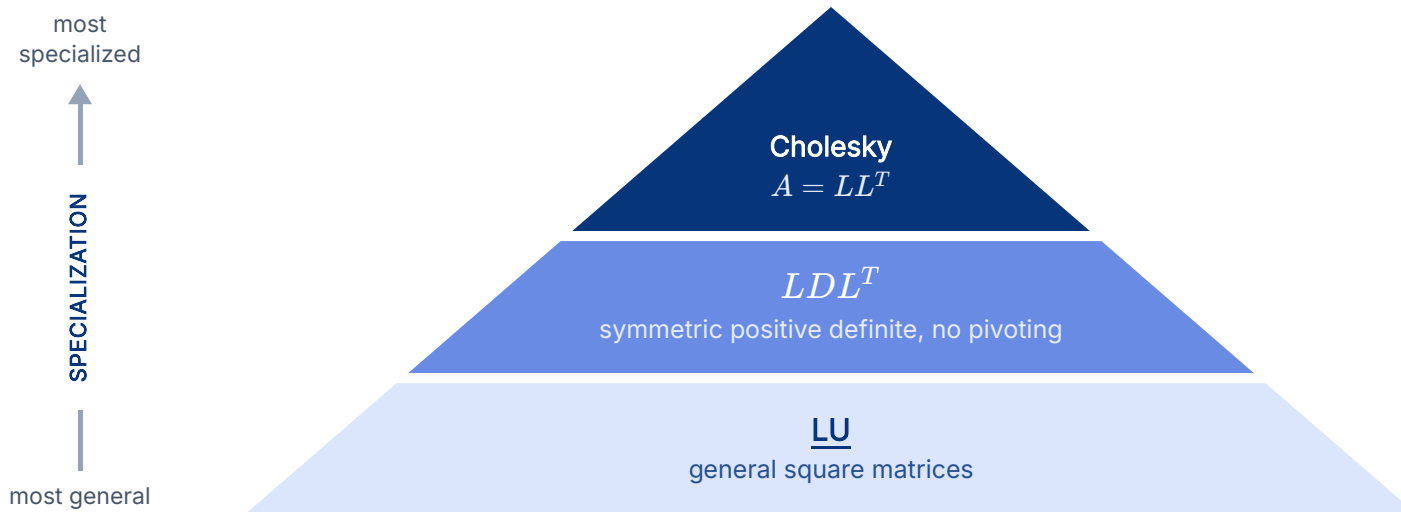


BEFORE YOU READ

Each form specializes the one below

For a symmetric positive definite matrix, LU without pivoting always succeeds. Absorbing structure step by step leads from LU to Cholesky.



TAKEAWAY

Why specialize

Cholesky exploits $A = A^T$ to halve the work and storage, and positive definiteness to remove pivoting. The LDL^T form avoids square roots entirely.