

AMS 595/691: Fundamentals of Computing: Part II

Lecture 7: Symbolic and Numerical Computations

Xiangmin Jiao

Stony Brook University

Symbolic Computation with SymPy

- [SymPy](#) is a Python library for symbolic mathematics
- It is computer algebra system (CAS), similar to Maple, Mathematica, and MATLAB's Symbolic Toolbox
- See [Jupyter notebook on SymPy](#)

Numerical Computation with SciPy

- SciPy library is part of SciPy software stack
- It provides efficient numerical routines such as routines for numerical integration and optimization.
- See [Jupyter notebook on SciPy](#)