



IAIFI Summer School: Simulation-Based Inference Tutorials

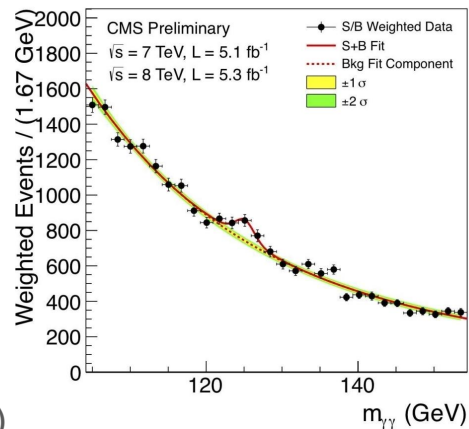
Jessie Micallef, Carol Cuesta-Lazaro
8 August 2024

Choose Your Adventure!



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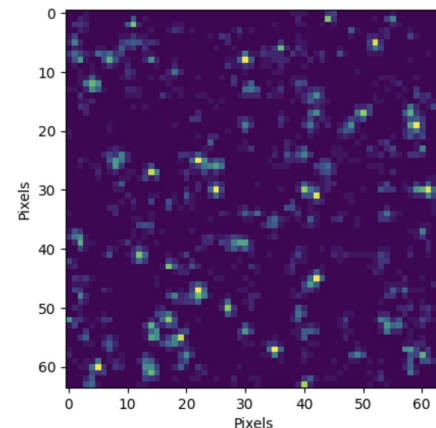
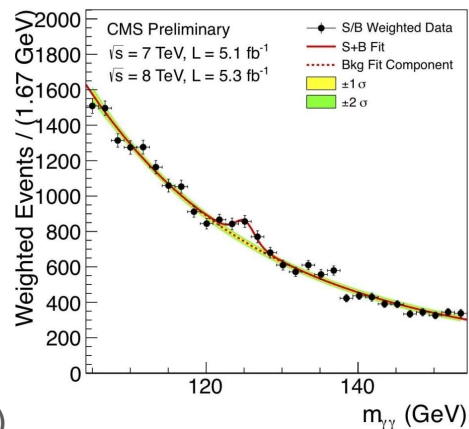
1. Tutorial1_Basic_NRE_NPE.ipynb
 - a. Writing implicit likelihood for bump hunt
 - b. Neural likelihood-Ratio Estimation (NRE)
 - c. Neural Posterior density Estimation (NPE)



Solutions: <https://github.com/jessimic/sbi-tutorial-iaifi/tree/answers>

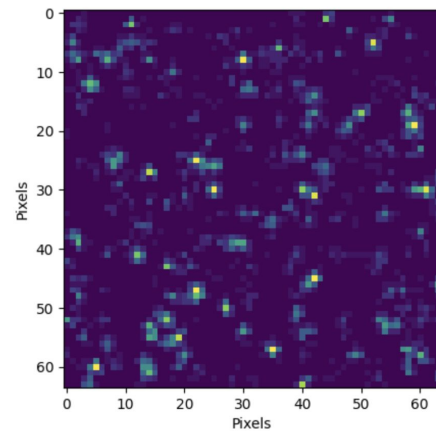
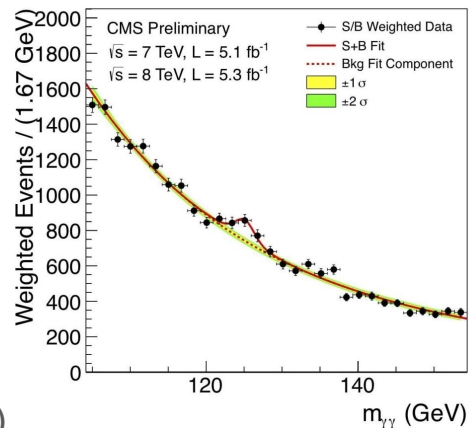
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1. Tutorial1_Basic_NRE_NPE.ipynb
 - a. Writing implicit likelihood for bump hunt
 - b. Neural likelihood-Ratio Estimation (NRE)
 - c. Neural Posterior density Estimation (NPE)
2. Tutorial2_2DInput_NPE_Coverage.ipynb
 - a. 2D point source distribution
 - b. Implicit Likelihood with NPE
 - c. Evaluate coverage



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3. Tutorial3_Open_Dataset.ipynb
 - a. Load data from 2D CAMELS Multifield Dataset
 - b. Write your own implicit likelihood
 - c. Evaluate robustness by inferring on second dataset



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