


# Aditri Bhat

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## Education

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**University of Chicago**, *MS in Computational and Applied Mathematics* Sept 2024 – June 2025

- *Selected Coursework*: Machine Learning, Matrix Computation, Nonlinear Optimization

**Rensselaer Polytechnic Institute**, *BS in Mathematics and Physics* Aug 2020 – May 2023

- *GPA*: 3.89/4.00
- *Selected Coursework*: Computational Physics, Numerical Computing, Experimental Physics

## Work Experience

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**Associate Nuclear Engineer**, Fluor Marine Propulsion – Niskayuna, NY June 2023 – Aug 2024

- Developed tests and testing framework in both Python and Bash for nuclear analysis software within an Agile environment, reducing the time to run test cases by 90%
- Wrote both specifications and user guides for analysis software, communicating with stakeholders to validate specified behavior
- Designed post-processing workflows to compare and visualize results in an interactive dashboard based on user requests

**Private Tutor**, TroyTutors – Troy, NY October 2022 – May 2023

- Taught undergraduate level physics and calculus in one-on-one sessions, working through practice problems to clarify concepts

## Selected Projects

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**Queue Simulation (QSim)** [bhata-stack/QSim](#)

- Created a package that simulates queue systems (such as the checkout at a grocery store) which provides data about wait times, queue loads, and various other parameters
- Tools: Python, Jupyter, Sphinx

**Upscaling Galaxy Images with Variational Autoencoders** [bhata-stack/galaxy\\_vae](#)

- Designed and trained variational autoencoders to generate upscaled versions of low quality galaxy images which can then be used for testing other methods of galaxy analysis
- Tools: Python, Jupyter, Tensorflow

**Chua Circuit Simulation** [bhata-stack/projects/Chua Circuits](#)

- Developed a computational model to represent a physical Chua circuit system and wrote a paper describing how the physical parameters affect the chaotic system
- Languages: Python, Jupyter, LaTeX

**2D Ising Model** [bhata-stack/projects/Ising Model.ipynb](#)

- Constructed a representation of the Ising model which uses simulated annealing to determine the lowest potential energy state for a set of particles in random spin states
- Language: Python, Jupyter

## Technical Skills

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**Programming Languages**: Python, Bash, HTML & CSS, Javascript

**Software**: Red Hat Enterprise Linux, Knime, Jira, Jupyter Notebook, Git/Github, LaTeX, Excel, Google Suite

**Technical Knowledge**: Regression/Unit Testing, Technical Writing, Monte Carlo Methods, Kanban