Stony Brook University

Individual Development Plan

Name
Henry Shi

Date
6/23/20

Professional Goals & Motivations

What are my educational and career aspirations?
How do I think these aspirations can be best met through my undergraduate research?

I would like to obtain a B.S. in Physics and Astronomy by May 2022.
I would like to get accepted into a PhD Astronomy program.
I hope to obtain a PhD and become a researcher in astrophysics academia.
In order to attain my goals, I hope to learn to manage my time on independent projects, and I hope to build firsthand experience in scientific research.

Talents or Strengths

What are my talents and strengths?

-Plotting functions and implementing MCMC algorithms in Python
-Can break up larger tasks into smaller tasks
-Background in applied real analysis, linear algebra, statistics, astronomy, and modern physics
-Can identify and propagate errors in experiment
-Curious and self-motivated

Development Opportunities

What knowledge or skills do I need to enhance?

-How to extract parameters from data
-How to evaluate the fit of a model to a dataset
-How to do MCMC sampling
-How to manage my time on long-term tasks

SMART Goals & Action Steps

Goals are: **S**pecific, **M**easurable, **A**chievable, **R**ealistic, **T**ime-bound
What goals do I have for the semester? Academic year?
What specific actions can I take to achieve these goals?

Start by solving simple inference problems by using Bayes Theorem and sampling to calculate values of mean and standard deviation and their confidence intervals of the distribution. Accomplish this for 1 problem by Friday June 26th.
Implement MCMC algorithm to sample over the PS1 dataset to obtain 1 estimate of H0 by July 17th.

Revision Date

Mentor Name & Signature