MECH 492/892-501– Introduction to Scientific Computing

Academic Term: Summer 2024

HW1

1. What is your research/science background?

* I am conducting research on the metabolic adaptations of pathogenic bacteria, specifically *Staphylococcus aureus,* *Treponema pallidum* and Neisseria gonorrhea.
* My research involves studying the distinct overflow metabolism observed in these pathogens through a combination of experimental and modeling approaches.
* Additionally, I work with human neutrophil models, focusing on building context-specific genome-scale metabolic models derived from single-cell RNA-Seq data to understand the metabolic dynamics of healthy and diseased human neutrophils.

1. What do you wish to learn from these 5 weeklong courses? Pease provide a short bullet

point format list.

* Develop a strong foundation in scientific computing techniques.
* Gain proficiency in using Git and Github.
* Understand how to effectively use high-performance computing resources.
* Acquire the ability to manage and analyze large datasets, particularly those derived from single-cell RNA-Seq data.

1. What is your GitHub username? If you don’t have a GitHub Id, please sign up for an

account in GitHub (<https://github.com/>)

* My GitHub username: NabiaShahreen

1. If you haven’t done it already- sign up for an OSPool Account

(https://www.osgconnect.net/signup)

• Type ls in the terminal. What is the output?

* The ls command in the terminal lists the contents of the current directory. Because I do not have any files, running the file in my home directory produced no results.

A screenshot of a computer

Description automatically generated