

# NVIDIA

v1.0

NVIDIA is an American technology company based in Santa Clara, California. NVIDIA designs graphics processing units (GPUs) for the gaming market, as well as system on a chip units (SOCs) for the mobile computing, data center and automotive market.

## Performance Architecture Team - PowerSense

PowerSense is an internal tool used for power and thermal telemetry collection when running applications. In this project we want to enhance PowerSense to be a generic profiling & tuning tool for all supported Power features. This would leverage the support provided by F/W and tools and enable end users to profile and tune features to achieve best perf/watt.

1. Add support for profiling all power features. (HWPM, TRACE, polling, etc.)
2. Add support for tuning all power features. (sweep through all combinations of settings/tunables)
3. Configurability to override/disable features as required.
4. Configurability to select features of interest.
5. Visualization through plots and charts.

Skills to bring or learn:

- Python
- Grafana
- Operating systems concepts
- Computer architecture concepts

## Contact

*Mentors:* (TBA)

*Academic advisor:* Lane Harrison (ltharrison@wpi.edu)

*Center director:* Mark Claypool (claypool@cs.wpi.edu)