Title:

Optimizing Python: Faster, Smaller and Lower Power

Description:

Python is fun to use and amazingly powerful. As the language moves to smaller processors and more complex machine learning projects, running out of cycles is inevitable. What can you do your code if taking too long to run? Are there easy ways to make it faster? How do you find bottlenecks to optimize?

I will go through easy profiling tools such as printing out clocks and Python’s built-in profiler. I’ll explain how threads make profiling more complicated and how to deal with that including using Linux tools like top and perf. I’ll show some visualization tools so you can see where the cycles are going.

Most of this will be tactical on how you can figure out what tools will work for your overburdened system, but we’ll also talk about deterministic vs sampling profilers and some general strategies for profiling software on smaller systems.

Bio:

Elecia White has worked on DNA scanners, inertial measurement units for airplanes and race cars, toys for preschoolers, a gunshot location system for catching criminals, and assorted other medical and consumer devices. She is the author of O’Reilly’s [Making Embedded Systems](https://www.amazon.com/Making-Embedded-Systems-Patterns-Software-ebook/dp/B005ZTO0LG/) and host of the weekly [Embedded podcast](https://podcasts.apple.com/us/podcast/embedded/id649204115).