

Understanding the impact of machine learning tasks on power consumption of modern mobile devices

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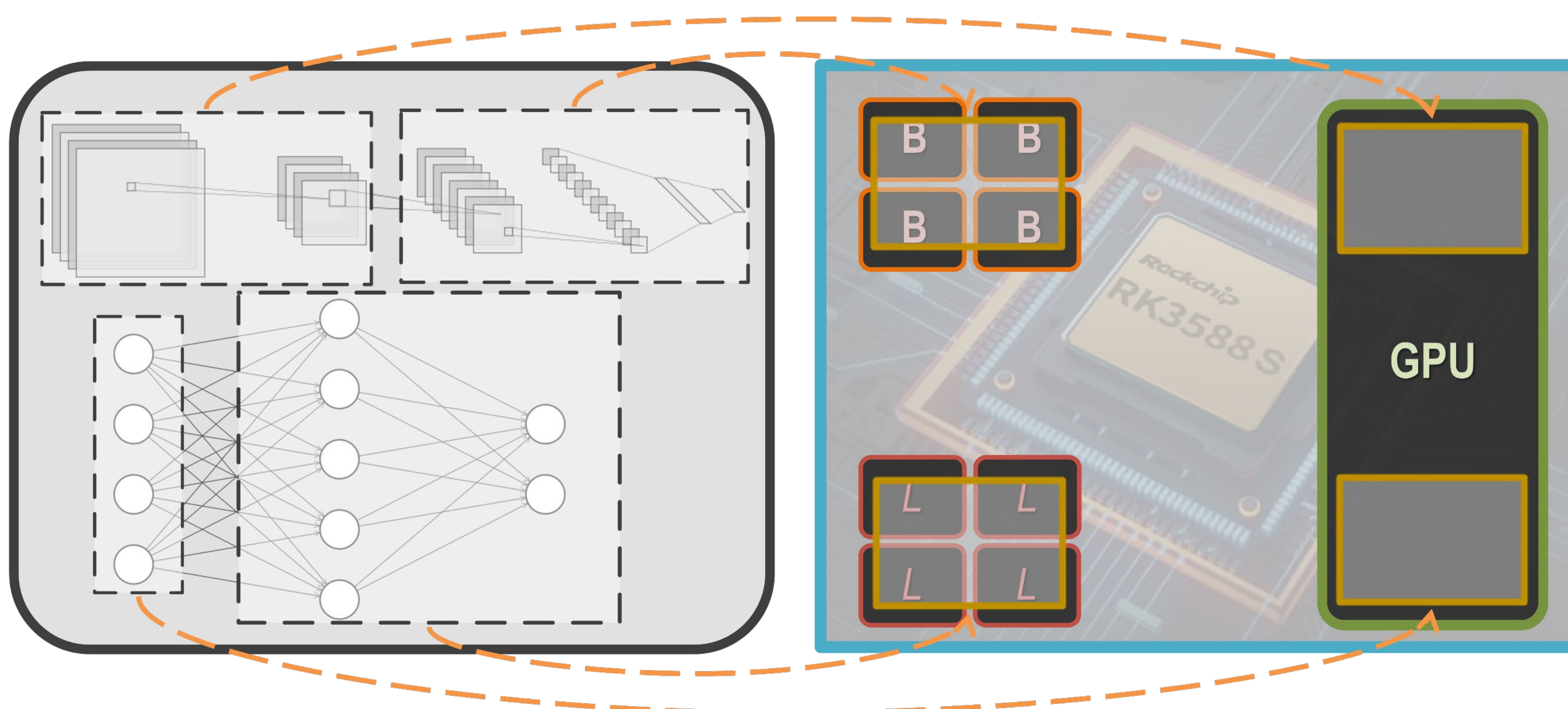
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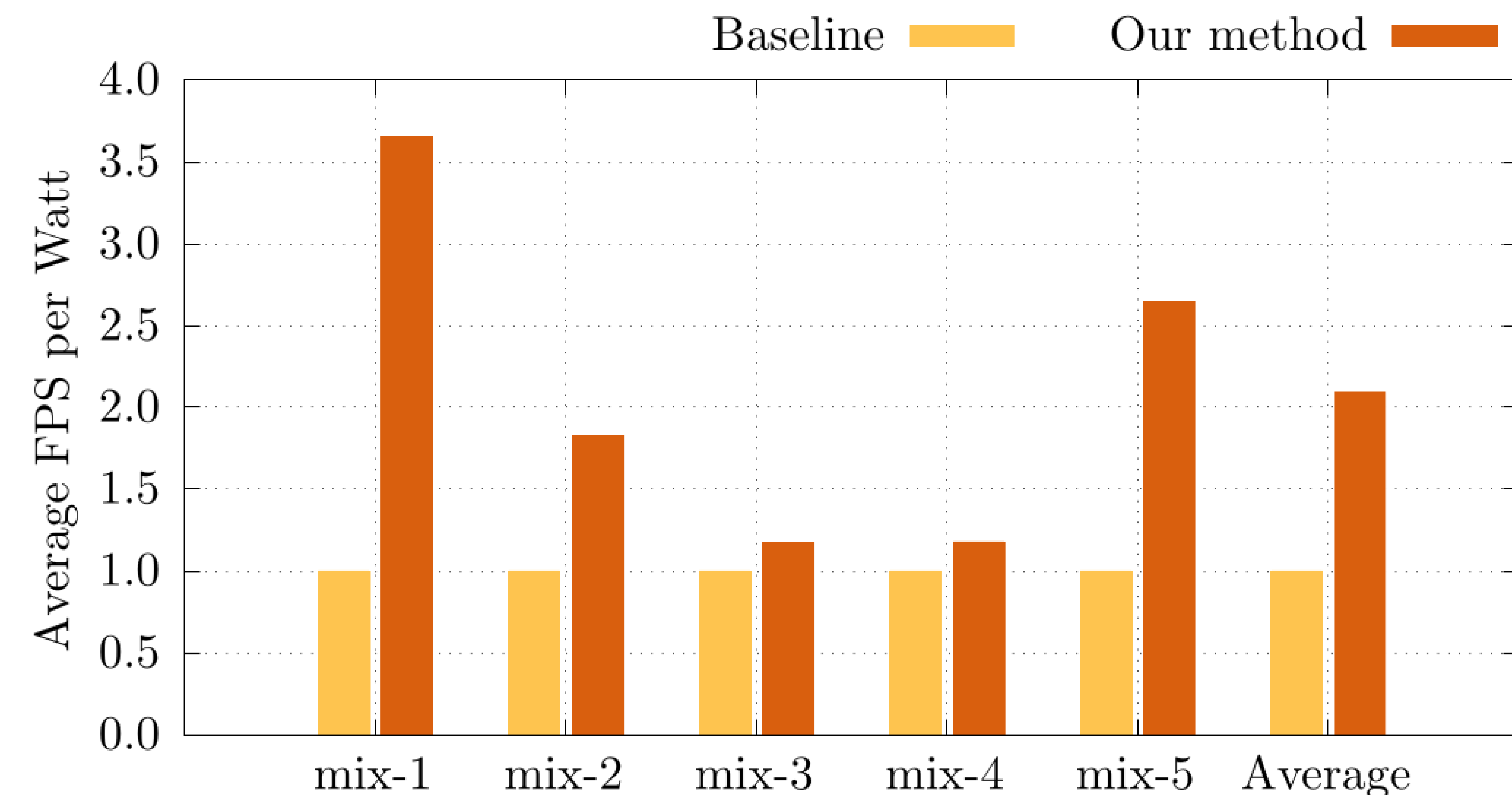


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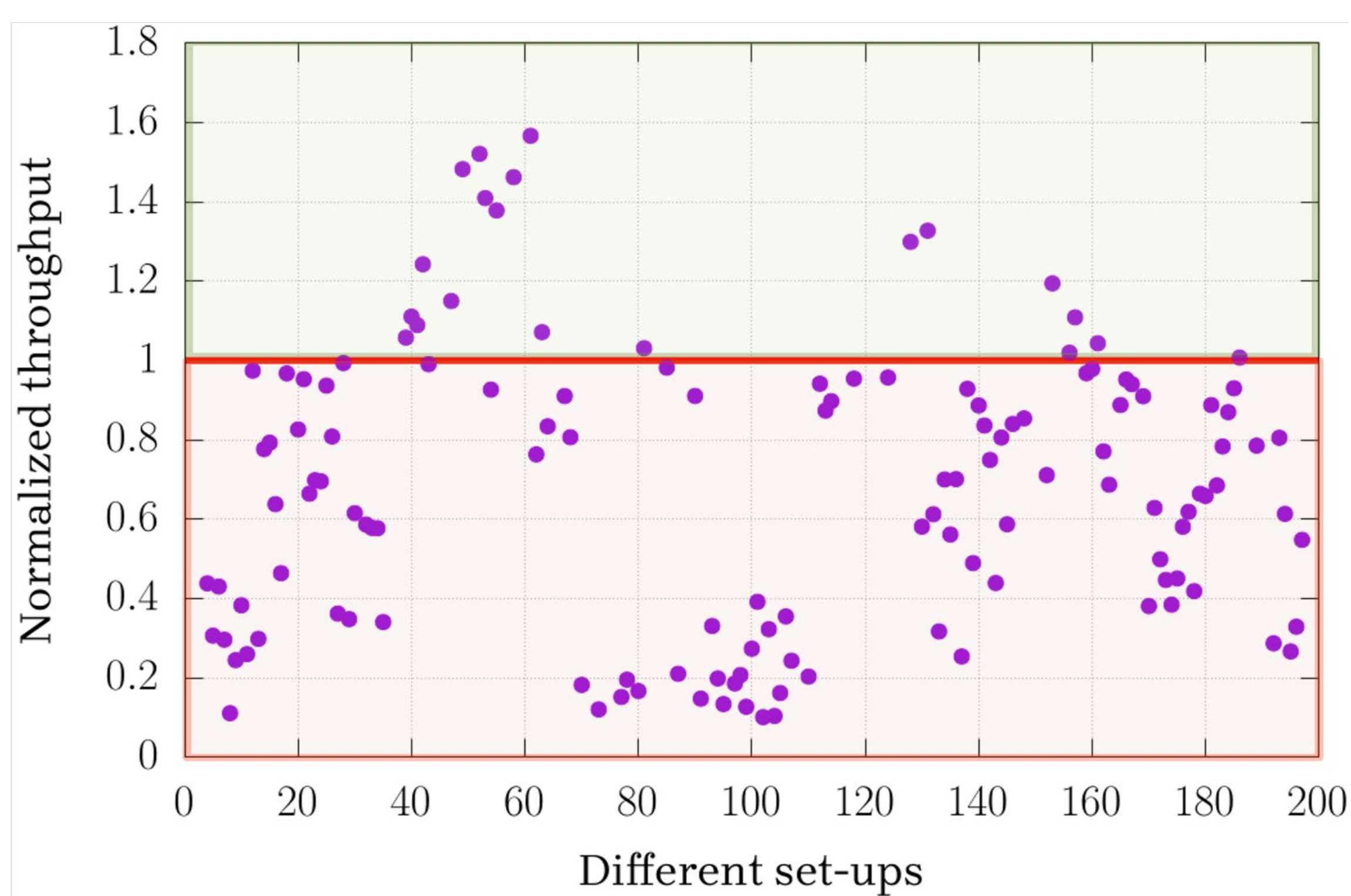
Introduction



Results



Methodology



| | |
|------------------------------|---------------------|
| Vout ENABLED | 12.00 V |
| Inst Power | -.-- mA |
| CAPTURE STATS | |
| Time | 140.98 s |
| Samples | 704903 |
| Consumed Energy | 13034.92 uAh |
| Average Power | 3.99 W |
| Average Current | 332.85 mA |
| Average Voltage | 11.98 V |
| Expected Battery Life | 3.00 hrs |



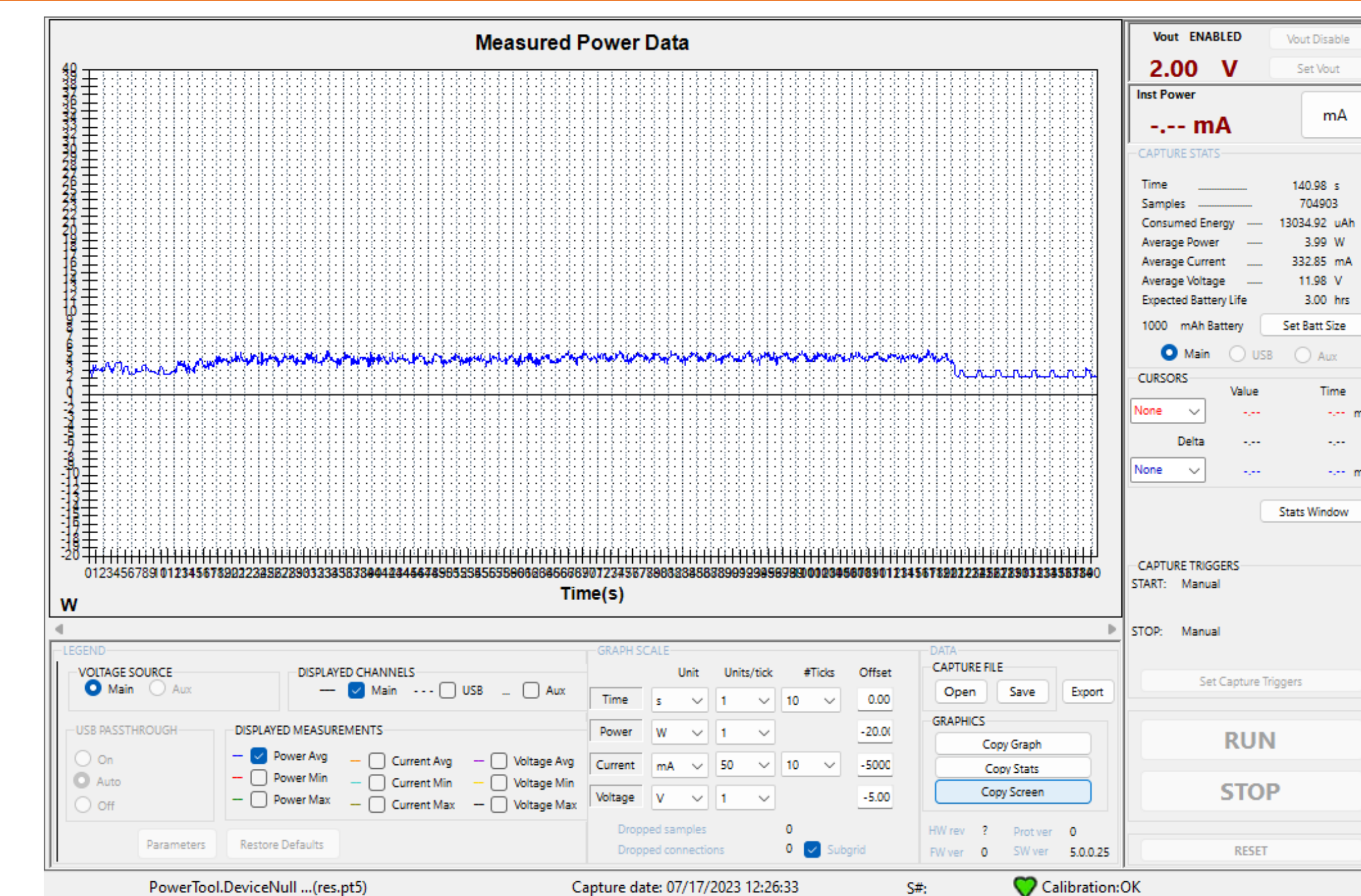
Future Work

```
from Monsoon import (
    HVPM,
    sampleEngine
)

def main():
    # Declare Power Monitor
    Mon = HVPM.Monsoon()
    # Connect to Target
    Mon.setup_usb()

    # Set Voltage
    Mon.setVout(8.0)
    # Initialize Sampler
    engine = sampleEngine(Mon)
    # Set Engine Output
    engine.ConsoleOutput(True)
    # Capture 5000 Samples
    engine.startSampling(5000)

if __name__ == "__main__":
    main()
```



<https://github.com/ColeDumas>

References

Wu, Carole-Jean, et al. "Machine learning at facebook: Understanding inference at the edge." *2019 IEEE international symposium on high performance computer architecture (HPCA)*. IEEE, 2019.

Acknowledgements

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