CS 5504: COMPUTER ARCHITECTURE

# Dynamic Load Balancing for Heterogeneous Systems

Kenneth Lee, Kyle Morgan

Abstract—Leveraging maximimum performance from specialized hardware is one of the major problems facing computer scientists today. General-purpose computing on graphics processing units (GPGPU) is a technique that is becoming increasingly popular for handling computations typically performed by the CPU. However, many GPGPU algorithms place the entire workload on the GPU, leaving the CPU idle for the duration of the computation. This paper investigates the effect various load-balancing schemes across the CPU and GPU have on overall application performance. Additionally, the discrete and fused GPU architectures, and their impact on performance, will be investigated.

#### I. Introduction

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### II. MOTIVATION

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# III. ARCHITECTURE OVERVIEW

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# IV. CONCLUSION

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#### REFERENCES

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- [2] J. Smith, On Having the Most Common Name, blah blah derp derp derp, 2012.

CS 5504: COMPUTER ARCHITECTURE 2

# APPENDIX TEAM MEMBER CONTRIBUTIONS

Kenneth Lee did A, B, C. Kyle Morgan did X, Y, Z.