

F# and GPGPU

Semyon Grigorev
St. Petersburg State University
7/9 Universitetskaya nab.
St. Petersburg, 199034, Russia
semen.grigorev@jetbrains.com

Kirill Smirenko
St. Petersburg State University
7/9 Universitetskaya nab.
St. Petersburg, 199034, Russia
k.smirenko@gmail.com

ABSTRACT

Aaabstraaact!!!!

CCS Concepts

•Software and its engineering → Automated static analysis; Software maintenance tools; •Theory of computation → *Program analysis; Parsing;*

Keywords

GPGPU, OpenCL, F#, metaprogramming, !!!!!

1. INTRODUCTION

GPGPU is popular technique for....

Tools are low level

OpenCL, CUDA etc.

Complex problems, geterogenious platforms: multicore, multi GPGPU etc. Special tools, lbs required for development simlification.

F# primitives

General requirenments: highlevel languge, existing code/dlls/other stuff reusing

Brahma.FSharp – the best platform for GPGPU programming!!!!

2. F# PROGRAMMING LANGUAGE

In this section F# [2] — is a functional-first multiparadigmal programming language for .NET platform.

Main important features described.

2.1 Code quotation

2.2 Type providers

2.3 Async MBP etc

3. RELATED WORK

Existing solution for GPGPU programming...

3.1 FSCL

Status [1]

3.2 Alea CUDA

CUDA only

3.3 Managed Cuda etc

Hm...

4. BRAHMA.FSHARP

In this section we present our platform for GPGPU programming in F#.

Blah-Blah-Blah!!!!

4.1 Architecture

Based on F# code quotation to OpenCL translator.

Driver is OpenCL.NET ¹

Picture.

Details of some blocks are described below.

4.2 ?????

4.3 OpenCL type provider

5. EVALUATION

Matrix multiplication

Substring matching

Substring matching with agents

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6. CONCLUSION

Education.

Graph parsing

Geterogenious porgramming generalization. Hopac is better than MBP.

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7. REFERENCES

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