

Intern Requirement

No. of students required	1
Preferred Discipline	<ul style="list-style-type: none">• Computer Science• Electrical Engineering
Prerequisites/ Skills Required	<ul style="list-style-type: none">• Knowledge in Object Oriented C++ Programming• Knowledge in coding within Visual Studio 2005/2008 preferred• Knowledge in Microsoft C# programming preferred• Knowledge in Graphic/CUDA programming preferred

Project Details

Title	R&D on General-Purpose Computation On Graphics Processing Units (GPGPU)
Overview/Background	<ul style="list-style-type: none">• Graphic processors have evolved through the years. They can contain hundreds of stream processors and are able to produce up to Tera flops of computation power for a single GPU processor. Technology trends in the industries have shown an increase in utilizing GPU for general purpose computing• Parallel processing is the way to move ahead with new multicore processors. With GPU classified as a highly parallelized architecture with hundreds of processor cores, high performance computing utilising this hardware is definitely the way to go• The ability to harness the power of graphics processors in the space of general computing could lead to new heights of innovative and creative solutioning
Objectives/Scope/ Deliverables	<p><u>Research</u></p> <ul style="list-style-type: none">• Research on various graphic processors suitable for general computing• Conduct a study on parallel processing in GPU processors• Research on tools and APIs for GPGPU programming• Derive techniques and methods to utilise GPU for general processing <p><u>Development</u></p> <ul style="list-style-type: none">• Develop a demonstration program using GPU utilising the tools and APIs being researched on, and benchmark the program's performance against one that runs on normal processors
Project Duration	2-4 months