# Mapping Unikernels with TAG based architectures



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#### **Declaration**

I hereby declare that except where specific reference is made to the work of others, the contents of this dissertation are original and have not been submitted in whole or in part for consideration for any other degree or qualification in this, or any other university. This dissertation is my own work and contains nothing which is the outcome of work done in collaboration with others, except as specified in the text and Acknowledgements. This dissertation contains fewer than 65,000 words including appendices, bibliography, footnotes, tables and equations and has fewer than 150 figures.

Akilan Selvacoumar October 2022

#### Acknowledgements

And I would like to acknowledge ...

#### **Abstract**

This is where you write your abstract ...

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#### Nomenclature

#### **Roman Symbols**

*F* complex function

#### **Greek Symbols**

 $\gamma$  a simply closed curve on a complex plane

 $\iota$  unit imaginary number  $\sqrt{-1}$ 

 $\pi \simeq 3.14...$ 

#### **Superscripts**

*j* superscript index

#### **Subscripts**

0 subscript index

crit Critical state

#### **Other Symbols**

 $\oint_{\gamma}$  integration around a curve  $\gamma$ 

#### **Acronyms / Abbreviations**

ALU Arithmetic Logic Unit

BEM Boundary Element Method

CD Contact Dynamics

CFD Computational Fluid Dynamics

**xviii** Nomenclature

CIF Cauchy's Integral Formula

CK Carman - Kozeny

**DEM** Discrete Element Method

DKT Draft Kiss Tumble

DNS Direct Numerical Simulation

EFG Element-Free Galerkin

FEM Finite Element Method

FLOP Floating Point Operations

FPU Floating Point Unit

FVM Finite Volume Method

GPU Graphics Processing Unit

LBM Lattice Boltzmann Method

LES Large Eddy Simulation

MPM Material Point Method

MRT Multi-Relaxation Time

PCI Peripheral Component Interconnect

PFEM Particle Finite Element Method

PIC Particle-in-cell

PPC Particles per cell

RVE Representative Elemental Volume

SH Savage Hutter

SM Streaming Multiprocessors

USF Update Stress First

USL Update Stress Last

## Introduction

### Motivation

# **Research Questions**

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