



Master Thesis

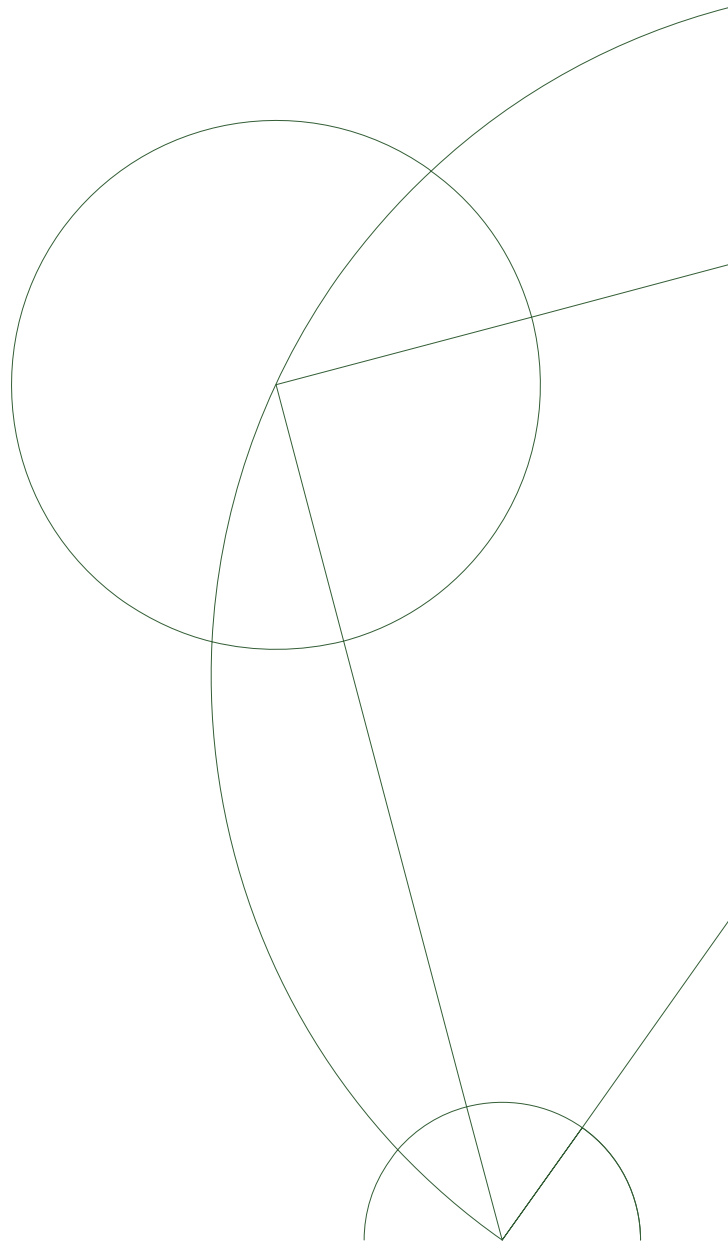
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Deep Contact

Accelerating Rigid Simulation With Convolutional Networks

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August 6th 2018



Abstract

This is a master theis from

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Chapter 1

Introduction

1.1 Motivation

1.2 Thesis Overview

Chapter 2

Rigid Body Dynamics Simulation

This chapter mainly introduces rigid body simulation to help you understand how computer simulate rigid dynamics based on traditional newton-types methods. For more details, some contact forces solvers are decribed in this chapter. Afterwards, we will use one of solver to run some simulation and get the image data for the next step, grids-transfer.

2.1 Rigid dynamics Simulation

2.2 Contact Forces Solver

2.3 Simulation Results

Chapter 3

Particle-grid-particle

3.1 SPH

3.2 Particle to grid

3.3 Grid to particle

3.4 Conclusion

Chapter 4

Deep Learning For Simulation

4.1 Convolutional Neural Networks

4.2 CNN Constructure

4.3 Traing Results

4.4 Simulation based on Trained model

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