PER KARLSSON

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EDUCATION

B.Sc in Media Technology and Engineering, GPA 4.0/4.0
Linkoping University, 2014

M.Sc in Computer Science and Engineering,
Linkoping University and *Stanford University*. Expected to graduate September 2014. GPA 3.9/4.0

EXPERIENCE

Technical Director — Pixar Animation Studios, Emeryville, CA — Summer 2012-Present

Co-authored the rigid body simulation pipeline built on top of existing *bullet* and *Physbam* rigid body libraries, developing the C++ backend and the python wrapped frontend. This system is used for all rigid body simulations in the Pixar inhouse animation system.

In production, worked on the feature movie *The Good Dinosaur* where I led the vegetation simulation effort in the context of character interaction. Also worked on the movie *Inside Out* where I authored a new tool for animators to simulate secondary motion on top of hand-animated primary motion, saving them the time and effort of having to manually animate such effects.

Software Engineer — Naiad Group at Exotic Matter, Stockholm, Sweden — Summer 2011

Developed the Naiad Ocean Toolkit, a frequency spectrum based wave generator. The wave simulation generated by the toolkit can be merged with an existing Naiad FLIP water simulation, enabling visual effects studios to exclusively use Naiad for ocean sequences. I also wrote 3rd party Naiad plugins for Houdini and the Arnold renderer, allowing studios to use Naiad in their pipelines without any additional development work.

Teaching Assistant — Linkoping University., Norrkoping, Sweden — 2009-2010

Lecturer in single variable calculus and linear algebra. Grading assignments.

SKILLS

Extensive knowledge of simulation, parallel computing, real-time performance and offline rendering. Proficient programming skills in C/C++, Python, OpenGL, OpenCL, CUDA, Matlab.

HONORS AND AWARDS

1st Prize in the Rendering Competition, *Stanford cs348b*, 2012
Global illumation model for rendering foam and splashes.

Most Technical Advanced Game Award, *Stanford cs248*, 2012
GPU based Ocean Waves, Deferred shading with Depth of Field, Motion Blur and Bloom.

Scholarships

- ⋆ Stanford Tuition Fees & Housing
- ⋆ Norrkopings Polytekniska stipendium
- ⋆ SIGGRAPH Conference Los Angeles
- ⋆ Hans-Olof Johanssons stipendiefond