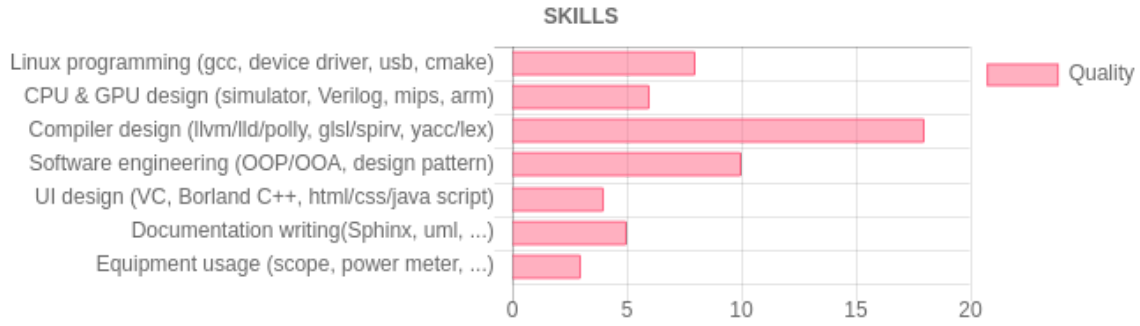
Chung-Shu Chen 陳鍾樞

I am a compiler developer with good experience in llvm cpu and gpu backend, lld linker, npu/onnx, c++, OpenGl/glsl and simulator, ..., and enjoy with compiler.

CV (DETAIL RESUME)

QUALIFICATION

Over 20 years experience in c/c++ programming, 7 years compiler toolchain related experience and research in parallel processing for master degree.



MY OPEN SOURCE PROJECT

I am proud of my work is accepted by LLVM documentation, appears at http://llvm.org/docs/tutorial/#external-tutorials

Tutorial: Create an LLVM Backend compiler	http://jonathan2251.github.io/lbd/index.html
Tutorial: Create an LLVM Backend Toolchain	http://jonathan2251.github.io/lbt/index.html
The concept of GPU compiler	http://jonathan2251.github.io/lbd/gpu.html

EDUCATION

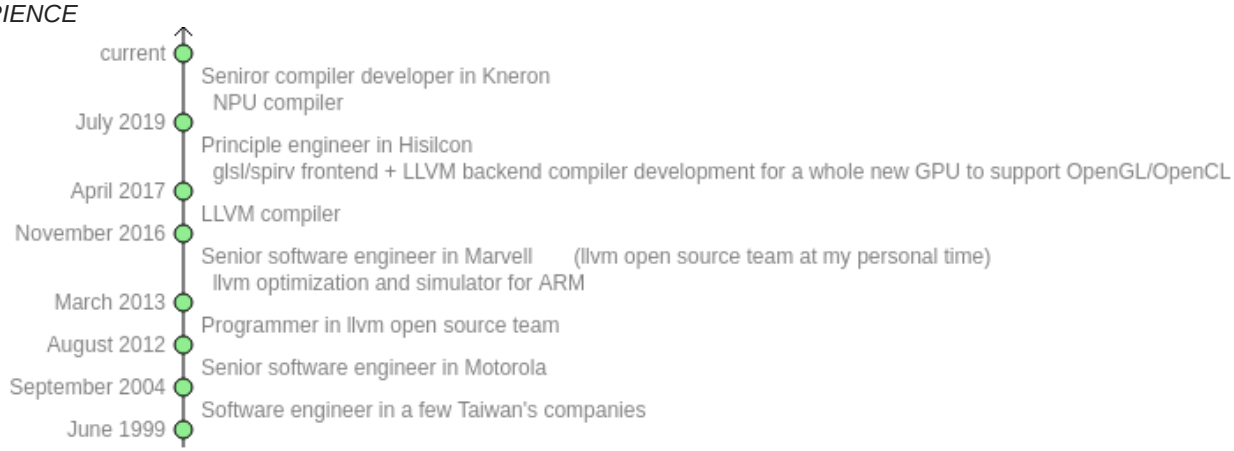
1997-1999 Master, June 1999, National Taiwan Normal University (國立台灣師範大學), Taipei, Major: Information Science.

1991-1994 B.S., June 1994, National Taiwan Technology University of Science and Technology (國立台灣科技大學), Taipei, Major: Industry Engineer.

LICENSE

Taiwan National Computer Engineer license, 1995 高考資訊技師及格.

EXPERIENCE



September 2004 - June 1999:

Proton 2014/3 – 2014/9 Manager Digital TV programming, Abocom 2013/6 – 2014/3, Senior Engineer 802.11b programming,

DBTEL 2011/11 – 2013/6 Engineer DECT wireless phone programming, Symmetry 2011/2 – 2011/11 Engineer, SGSN and GGSN for GPRS&3G programming,

Cando 2010/7 – 2011/2 Engineer CAM programming, Spirox 2009/12 – 2010/7, Engineer CAM programming, Intech 2009/6 – 2009/12 Engineer CAM programming

THESIS OF MASTER DEGREE

The Researches of Column Sort and Related Problems

Publish: 陳鍾樞，林順喜，2000，行排列法簡化步驟之研究，2000網際網路與分散式系統研討會，台南成功大學，台灣，中華民國，Vol.2，頁85-93。

PROPOSAL OF PHD STUDY

The Researches of Sorting Network and Related Algorithm

OTHER WORK

Take course "Image processing" and program: Jpeg decoder

Web and javascript: As my resume and my personal web site

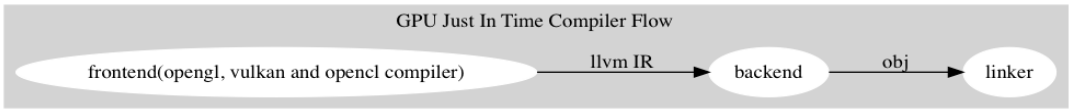
Graphivz: as some graph diagrams used in this CV. Source code: mywork_1.gv and study_and_apply.gv

---

ACHIEVEMENT

Hisilcon

GPU compiler scope:



To support an our new designed GPU for cell phone, ported from ARM. 20% of frontend is changed, 50% of backend is changed in aspect of number of code lines.

My work:

Implement compiler (fontend + llvm backend) for 80% of texture related API and optimization by myself alone and document writing.

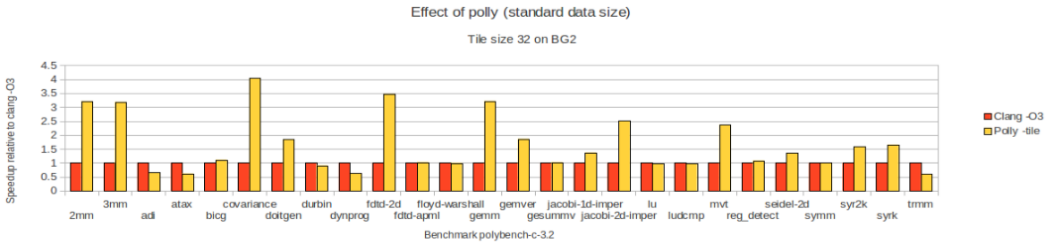
Instruct and help other engineers for the other 20% of texture related API, review their implementation and co-work with the leader of texture part of architect.

Implement compiler supporting our GPU's load/store for RGBA fixed floating point format of vulkan (32, 16, 11, 10 and 2 bits; NaN Infinity) alone and document writing.

Marvell

Implement semi-auto software system of running benchmark and generating report for gcc toolchain.

Demonstrate polly and the concept of polyhedral optimization model for Marvell llvm and gcc toolchain optimization. Polly is a software for loop optimization.



Implement co-simulator for a few Marvell's ARM based 64-bit cpu.

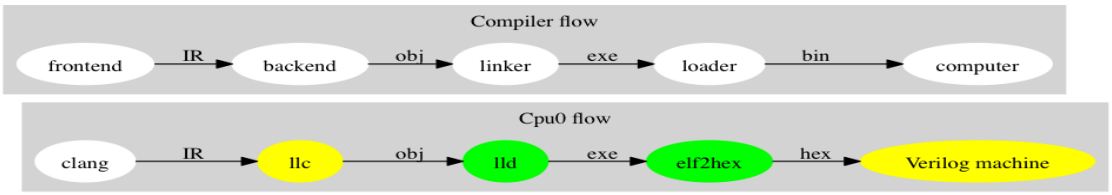
Propose and implement DSL on simulator to save tens of system verification in c++ coding.

Complete cmake to replace make for Csim.

Advantage: simpler and cross-os-platform than make.

LLVM open source project

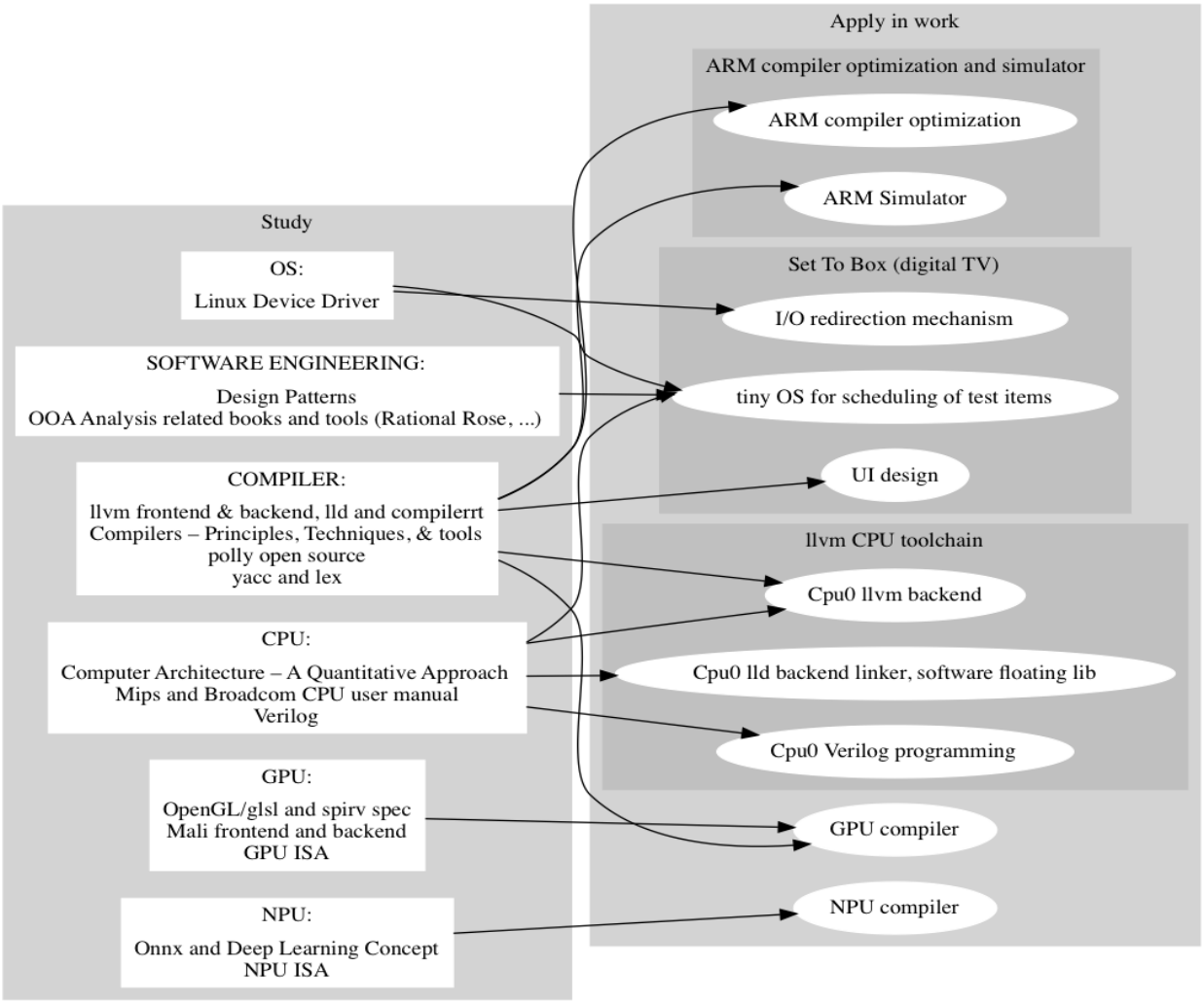
The lower half is the my llvm backend's work flow. Yellow and green parts are my implementation in my books.



Mortorola

Develop Set Top Box's software framework.

Learning after school & applying in work



References

[My former manager's recommendation letter: https://jonathan2251.github.io/ws/en/RL_Marvell.pdf]