

Jackie Harris

EDUCATION

CARNEGIE MELLON UNIVERSITY

B.S. IN ECE, MINOR IN CS

Sept 2011 – May 2015

Pittsburgh, PA

GPA: 3.19

CONTACT

Email address:

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LINKS

Web page resume:

jackieh.net/resume

LinkedIn page:

jackieh.net/linkedin

GitHub page:

jackieh.net/github

SKILLS

LANGUAGES

Most familiar:

C • C++ • Python • Java

Somewhat familiar:

Matlab • SystemVerilog • Verilog

SOFTWARE

Development environment:

Unix shell • Vim • GDB

Version control:

Perforce • Git • Subversion

COURSEWORK

- Compiler Design*
- Distributed Systems*
- Intro to Computer Architecture*
- Operating System Design and Implementation
- Embedded Systems Design
- Embedded Systems Engineering
- Algorithm Design and Analysis

(* Earned an A)

EXPERIENCE

NVIDIA | GPU ARCHITECT

Aug 2015 – Present | Santa Clara, CA

- Hardware engineer for the **GPU process scheduling hardware unit**.
- Implementing features for the unit, and **defining the hardware and software programming interface** for the GPU for the use of such features.
- Features include hardware improvements required for implementation of an NVLink flush protocol, and other hardware features for improved driver efficiency for Windows scheduling models.
- Specific primary duties include implementing new GPU features in the unit's **C++ functional model**, writing **descriptions of features in manuals** used for development of graphics driver software, and **designing test plans** for features.
- Assisting in **hardware design, debug of driver software, unit verification and chip verification** for owned features and other features.
- **Work within a team** of 5-8 architects for the unit, interface frequently with a verification team and an ASIC design team for the unit, and sync weekly with teams that develop graphics driver software for NVIDIA.
- Worked on the Volta GPU architecture and subsequent architectures.
- Technologies used: **C++, Python, Perforce, Vim, Linux**.

QUALCOMM | INTERIM ENGINEERING INTERN

May 2014 – Aug 2014 | San Diego, CA

- Maintained a Software Product Line reporting tool.
- Wrote software for maintaining a Salt deployment, for remote configuration and execution management of Windows machines.
- Technologies used: **Python, Git, Perforce, Vim, Eclipse, Linux, Windows**.

CARNEGIE MELLON CYLAB | RESEARCH ASSISTANT INTERN

May 2013 – Aug 2013 | Pittsburgh, PA

- Developed back end of a software tool for automated static analysis of router firmware releases for security vulnerabilities.
- Designed algorithms and heuristics for file format detection, binary analysis (reverse engineering and file extraction), password hash detection.
- Integrated and added to open-source tools that are used for automatic extraction of unconventional compression formats.
- Worked with a team to create a fully working easy-to-use application, and published results on the tool's effectiveness.
- Technologies used: **Python, Bash, Java, PostgreSQL, Git, Vim, Linux**.

PROJECTS

KERNEL PROJECT | OS DESIGN AND IMPLEMENTATION

October 2014 – December 2014 | Pittsburgh, PA

Designed and implemented a kernel for x86. Includes system calls for the following: process management, task management, program execution, asynchronous signals, page allocation, console driver, timer and keyboard. Collaboration project with a partner. Technologies used: **C, Simics, x86 Assembly, Git, Vim, Linux**.

ARM SIMULATORS | INTRO TO COMPUTER ARCHITECTURE

January 2014 – May 2014 | Pittsburgh, PA

Implemented a series of simulators for the ARM instruction set. Includes gate-level simulation of a tournament branch predictor and a C simulation of multicore processor with cache coherence. Was responsible for designing and generating test cases. Series of solo projects. Technologies used: **C, SystemVerilog, Git, Vim, Linux**.