1 College Road, Box 1631
Hampden-Sydney, VA 23943

LINH NGUYEN

(804) 714-6404
nguyenvanlinh1992@gmail.com

EDUCATION

Hampden-Sydney, VA **Hampden-Sydney College** **May 2016 (expected)**

- Bachelor of Science in Physics (Honors) and Applied Mathematics; Computer Science minor CGPA: 3.9673
- ***Honors Thesis***: Optimizations for Finding Ground States of Quantum Ising Spin Glasses.
- ***Honors and Awards***:
  - Samuel S. Jones Phi Beta Kappa Award for Academic Excellence. Second highest GPA in class of 2016.
  - Macon Reed Award for outstanding sophomore in Mathematics/Computer Science.
  - Dean of the Faculty's Summer Research Grant.
  - Roy B. Sears summer internship scholarship.
  - Venable Scholarship for top 5% of incoming freshmen.
- ***Relevant Coursework***: Computer Architecture, Compiler Design, Operating Systems, Quantum Computing, Complex Analysis, Calculus III, Linear Algebra, Programming Languages (Coursera).

EMPLOYMENT

Undergraduate Researcher **LAVA Lab, University of Virginia** **Summer 2014 – Present**

Accelerating HotSpot (completed)

- Ported CUDA solver to most recent version of HotSpot, achieving up to 60X speedup for parallelized function.
- Wrote HS benchmark for 3D ICs in CUDA and ported to OpenMP and OpenCL. Optimized via caching.

Variable-length encoding on GPUs (in progress)

- Improved a CUDA encoder for large input size by partitioning input and merging results. Input is only limited to physical memory.
- Expanded the encoder to work with 256-bit codewords instead of 32-bit.
- Built a complete application with realistic Huffman tree by implementing a parallel histogram.
- Overlapped data transfer/computations for both the encoder and histogram, resulting in 1.6X and 1.9X speedups respectively, compared to the first CUDA implementation.

TECHNICAL EXPERIENCES

Projects

- **Compiler** (in progress). A gcc-style compiler for C language. The compiler supports procedures, expressions, and data types. Java.
- **Social Network** (in progress). A prototype that supports group messages, postings, friendships. PHP, JavaScript, SQL**.**
- **Rydberg Atom Model** (Summer 2013). A computer model of the atom in mixed states. Fortran. Python.
- Other miscellaneous implementations can be found on my github page at: github.com/vlnguyen92.

Languages and Technologies

- *Proficient*: C/C++.
- *Prior Experience*: Java, MySQL, JavaScript, ASM, XML Schema, Python.
- CUDA; OpenMP; OpenCL.

OTHER RELEVANT ACTIVITIES

Student Assistant **Hampden-Sydney College** **Fall 2013 – Present**

- Graders for General Physics and Meteorology courses.
- Tutor for Economics (Fall 2013), Physics, Mathematics, and Computer Science.
- Set up pre-laboratories for General Physics labs.
- Work at Computing Center/Global Education Office.

President **Math/CS Club** **Spring 2012 – Spring 2014**

Editor **HSC Journal of The Sciences** **Fall 2013 – Present**

Social Chair **Circle K International** **Fall 2012 – Spring 2013**