



# Alex Ray

*Circuit bender, kernel hacker, robot builder, urban explorer, trombone player.*

## Objective

A challenging position developing the cutting edge of massively scalable computer systems, where I can bring passion and expertise into solving problems that will improve peoples' lives, while pursuing a Masters and PhD in Computer Engineering.

## Education

2007-2012 **BS Computer Engineering & Textile Engineering, NCSU, Raleigh, NC, GPA: 3.76.**  
(expected)

## Computer Skills & Languages

Programming: Go, C, Python, Bash, Tcsh, x86 Assembly, Verilog, SQL, VBA  
Parallelization: OpenMP, PThreads, MPI, OpenCL, Go; LSF, Beowulf  
Software: Git, Subversion, Mercurial;  $\LaTeX$ ; Linux, OS X, Plan 9; GDB, Vim, Autotools, Make

## Experience

- Summer **IBM Extreme Blue Internship**, IBM, Austin, TX.
  - Built 9p/virtio drivers for the [GRUB2](#) bootloader
  - Added 9p/virtio support to the [Dracut](#) initramfs infrastructure
  - Improved 9pfs in the [Qemu](#) processor emulator
  - Implemented 9p/virtio features in [Virtual Machine Manager](#)
- Summer **Cisco Choice Internship**, Cisco, Morrisville, NC.
  - Developed tools for debugging of multi-core enterprise-domain routers.
  - Built device drivers to monitor performance events on chip for measurement/profiling
- Summer **Google Summer of Code**, *Minix Project*, Amsterdam, Netherlands, remote.
  - Build drivers and kernel support for on-processor performance monitor counters (PMCs)
  - Develop tests to measure performance and profile applications
- 2 Semesters **Computational Software Developer**, *Optoelectronics & Lightwave Engineering Group*, NCSU.
  - Developed modelling software to simulate and verify experimental findings
  - Optimized runtime using multithreading, multiprocessing and GPU computing on multiple platforms
- 2 Years **Computational Lab Assistant**, *Computational Chemistry Research Group*, NCSU.
  - Sysadmin Linux computational lab machines (hardware and software)
  - Explored new open source chemistry software packages
  - Assisted/supported researchers with utilities & scripts

## Relevant Extracurriculars

- Officer, Hacker & Presenter for the [NCSU Linux User Group](#)
- Presenter for Google User Group (Go Programming Topics)
- Lead Software Developer - [Aerial Robotics Competition Team](#)
- The [Triangle Arduino Hackers](#) - local microcontroller development group
- Contributor to open source projects - see <http://github.com/ajray>

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