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Alex Ray

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Objective

A challenging summer internship at a company on the cutting edge of new technology where I can bring passion into solving problems that will improve peoples' lives.

Education

Bachelor of Computer Engineering, Bachelor of Textile Engineering (dual major)
North Carolina State University, Graduating December 2011
4.0/4.0 Major/Cumulative GPA

Research/Professional Experience

Open Source Software Developer, *Google*, Summer 2009
Google Summer of Code 2009, Minix Project (Open Source Microkernel Operating System)
Worked remotely from Raleigh, NC

Responsibilities
Integrate hardware drivers for on-processor performance registers
Develop unit tests and integrate them into the existing unit test framework
Support the software community and other developers throughout the project

Computational Software Developer, *Optoelectronics & Lightwave Engineering Group*, 2 Semesters
OLEG Research Group, College of Engineering, North Carolina State University
National Science Foundation funded Research Project

Responsibilities
Develop modelling software to simulate and verify experimental findings
Optimize computational software runtime using multithreading, multiprocessing, and GPU computing
Deliver software for Windows, Mac, and Linux/Unix operating systems, as well as source code

Computational Lab Assistant, *Computational Chemistry Research Group*, 2 Years
Dr. Pasquinelli's Research Group, College of Textiles, North Carolina State University

Responsibilities
Maintain and update Linux computational lab machines' hardware and software
Build, install, test and debug new software, contributing back to the community where applicable
Develop utility programs and scripts to aid lab members and automate/manage simulations

Skills *(Most to least proficient)*

Operating Systems:	Linux/Unix, Windows XP, Windows Vista/7, Mac OSX, z/OS
Programming Languages:	C, Assembly, Verilog, Go, VBA, Java
Parallelization Languages:	OpenMP, PThreads, MPI
Scripting Languages:	Python, Bash, SQL, Tcsh, Vim
Markup Languages:	LaTeX, HTML
Version Control Systems:	Subversion, Git

Other Experience

Research Assistant, Department of Horticulture, Summer 2006
Set up test plots for Herbicide Efficacy Research; Repair mechanical tools in the field.

Musical Instrument Repair Apprentice, Raleigh Music Center, Summer 2004/05
Disassemble, reassemble and clean instruments. Perform metalwork repairs and mending.

Student Associations
Active member and one-term treasurer of the **NCSU Linux Users' Group**.
Software Team member and two-term secretary of the **NCSU Aerial Robotics Club**.
Performing member in the **NCSU Jazz Ensemble I** and the **NCSU Marching Band**.

Relevant Projects

Robust, scalable network and infrastructure for Aerial Robotics Competitions
Network allows multiple computers to be receiving live telemetry and imagery from an Aerial Robot
Distributes processing tasks to individual machines; data is shared in a SQL database and a Samba share
Wireless link is constantly maintained with the aircraft and commands are sent from the ground

Embedded systems programming - Arduino
Personal embedded projects programming AVR architecture microcontrollers for miscellaneous tasks
e.g. animate LED displays, control servomotors, play sounds, read analog devices

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