Joshua Wilson

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EDUCATION:

University of North Carolina, Chapel Hill, NC, December 2010

M.S. Physics, with thesis, *Emphasis in Numerical Fluid Dynamics,* GRE: Q 780 (90%) V 530 (68%) A 4.5 (54%)

Hendrix College, Conway, AR, May 2008

B.A. Physics, with Distinction, *Minor in Computer Science,* GPA: 3.54 (technical coursework) 3.33 (overall)

TECHNICAL SKILLS:

Languages/Protocols: C/C++/STL (3 yrs.), Java SE (4 yrs.), Python, SQL, TCP/IP, Bash scripting

Applications: Mathematica, Scipy.org, Gnuplot, ParaView, Gnu Make, all MS Office products

Environments: Familiar with Unix/Linux, Mac OS, and Windows

Software Projects: http://code.google.com/p/pdelab (heavily uses OOAD)

TECHNICAL COURSEWORK (# SEMESTERS):

Foundations of Computer Science w/ Java (2), Programming Practicum w/ Java (1), Scientific Computing w/ Java and C (1), Computing Systems Organization w/ Java and C (1), Electronics (1), Numerical ODE/PDE (2), Electrodynamics (3), Quantum Mechanics (3), Statistical Mechanics (2), Classical Mechanics (2), Calculus (4+)

WORK EXPERIENCE:

Operations Temp **KIPP NYC** **March 2011 - TEMP**

- Performing a variety of tasks ranging from basic office work to IT support.

Research Assistant **University of North Carolina** **December 2008 – December 2010**

- Worked under a Navy grant developing, testing, and supporting high performance, OO, C++/Python software (PDELAB, ~10,000 lines of code). Used the STL containers, algorithms, math, and I/O daily.
- Used PDELAB to solve and analyze the PDEs relating to my research. Thesis title: "Numerical Approximations to the Boussinesq Equations".
- Gained experience working with distributed memory systems and multi-threading.
- Developed a working knowledge of Unix (commands, file systems, and OS design).
- Developed strong problem solving and analytical skills including numerical analysis and scientific computing.
- Worked closely with collaborators (both specialists and non-specialists) and shared technical results.

Laboratory Instructor **University of North Carolina** **August 2008 – December 2009**

- Taught general physics laboratories for technical and non-technical majors (~60 students combined).

Research Assistant **Hendrix College** **May 2005 - May 2008**

- Worked under a NASA grant that focused on the calibration of a hybrid rocket propulsion system.
- Also worked as the lead physicist for a research group focusing on laser-assisted cancer immunotherapy.
- Presented original results, from both projects, at national conferences (APS: March 2006, April 2008).
- Member of a large team effort that required the ability to work under tight deadlines.

Lead Tutor **Hendrix College** **August 2005 – May 2008**

- Served as lead tutor for the physics tutorial center. Trained and mentored other physics tutors.
- Developed the ability to quickly diagnose problems and communicate technical ideas to non-technical people.

Orientation Coordinator **Hendrix College** **January 2007 – September 2007**

- Planned, executed, and evaluated the 2007 New Student and Parent Orientation (incoming class ~500 students).
- Hired, trained, and managed a staff of 72 volunteers and managed a budget of $100,000.
- Gained experience with Microsoft Access and Publisher. Developed website, brochures, schedules, t-shirts, etc.
- Served as an escalation point for all new student and parent questions and concerns, which required communicating professionally and effectively. Coordinated complicated, time-sensitive logistical projects.

ABOUT ME: I enjoy spending my free time working on a homemade Beowulf cluster / LAMP server as well as various other software projects (one in Java and one in Python), reading the news, and keeping up to date with the current state of the economy and financial markets. I also enjoy the outdoors, snowboarding, cooking, experiencing new cultures, and traveling when I have the time. During the summer of 2008, I organized a backpacking trip of seven through nine European countries over the course of six weeks.