

# Andrew Lateef AbuMoussa

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## Education

***The University of North Carolina at Chapel Hill***

*Aug. 2005 – May 2009*

B.S. Double Major: Applied Mathematics & Computer Science with Honors  
Mathematics GPA – 3.69/4.00 Overall – 3.42/4.00

## Honors

State of North Carolina Tuition Scholarship; 2005 - 2009  
Western North Carolina Regional Scholar, The Community Foundation of WNC; 2005  
Glaxo-Smith-Kline Scholar and Research Grant; 2004

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## Skills

### **Selected Computer Architectures, Languages and Software:**

*Operating Systems, order of use:* Linux/Unix, Mac OSX, Windows

*Core Languages:* Java, Python, C, C++, Scheme, LISP, Prolog

*Web Programming:* PHP, JavaScript, JSP, J2EE, EJB, Struts

*Databases:* SQL, Access

*Symbolic Computing:* Mathematica, Matlab, Maple, SAS

*Graphic Suites:* Photoshop & GIMP, Sketch-Up, 3ds Max

*Drafting and Architectural:* AutoCAD, ArchiCAD

### **Spoken Languages:**

Bilingual in English and Arabic. (U.S. Citizen)  
Advanced French. Basic Spanish & German.

### **Other Certifications:**

Skydiving, Scuba, Belay

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## Major Projects

### **Senior Honors Thesis - UNC Chapel Hill, Department of Computer Science (J2EE)**

Investigated modern interface design and then created Irys, an online auditory interface which provides visually impaired users with a more fluid, dynamic and accessible computing environment through a customized, single focus interface.

### **Bishara Textile Manufacturing – Cairo, Egypt (Java, mySQL); May 2008 – Sept. 2008**

Designed an online management tool for a 2000+ worker textile factory. The software manages all aspects of garment production, from worker output and factory capacity to scheduling design calendars while using a database back-end. Resulted in a 12% productivity increase and 5% staff reduction.

### **Analysis of the Stock Market - UNC Chapel Hill, Department of Mathematics (Python)**

Examined the stochastic nature of stocks and the results of model manipulation. The analysis concluded with proposed investment schemes and improvements to the Santa Fe Artificial Stock Market and the Genetic Algorithm with Adaption Models.

### **B-Splines: Data Reduction – UNC Chapel Hill, Department of Mathematics (Python)**

Demonstrated the use 3<sup>rd</sup> Order B-Splines to compress data while maintaining high resolution.

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## Employment History

**Volunteer Programmer, *Department of Social Services, Hendersonville, NC*** *Sep. 2009 – Present*

- Automating and optimizing the voucher and scheduling system for medicare/medicaid patient transportation through a custom VB.NET application. Plan to present to NC Department of Social Services to encourage state-wide use and implementation upon completion (10hrs/wk).

**IT Volunteer, *Child and Family Resource Center, Hendersonville, NC*** *Sep. 2009 – Present*

- Repurposed 6 old computers and one laptop which weren't being used by the non-profit so the computers could be donated to local families and schools. Other work per request (5hrs/wk).

**Programmer & Draftsman, *Shamburger Design Studio, Hendersonville, NC*** *May 2007 – Aug. 2007*

- Web programmer: created an ftp style page so clients could securely access rendered designs
- Architectural draftsman for 10 projects in excess value of \$15 million
- Trained a new intern

**Architectural Intern, *Shamburger Design Studio, Hendersonville, NC*** *May 2006 – Aug. 2006*

- Apprenticed architect through all stages of design, from initial meeting with clients, to sketching the ideas, to final presentation of plans and bidding of project to contractor
- Draftsman using AutoCAD 2005, ArchiCAD, and Google's Sketch-up.