N O U R A
H O W E L L

E D U C A T I O N

Olin College of Engineering
B.S. in Engineering with Computing
3.68 GPA, 2008 – 2012
team projects to learn
design, software, simulation, building

Mississippi State University
Gap year—pure math for fun
3.46 GPA, 2007 - 2008
graph theory, group theory, topology

S K I L L S

Python
flask, django,
mongoDB, SQL
jinja

JavaScript, HTML, CSS
AJAX
backbone
bootstrap
underscore
d3, rickshaw, flot

git

Java, C, a little C++, MATLAB

user oriented design
user interviews
needs and values, personas
interface design
mockups, prototypes
usability testing, pilot testing

written, spoken French
music theory, clarinet

arduino, stepper motors
drills, saws, bamboo
sewing

C O N T A C T

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E X P E R I E N C E

The Echo Nest   Boston, MA   2012 - 2013
Web development for huge sets of dynamically structured data, real time logging and monitoring, throttling asynchronous AJAX requests, computation parallelization, custom statistics, and data visualization (JavaScript, Python).

Accessible Mobile Phone   Rabat, Morocco   2011 - 2012
As project manager on a team of four U.S. and three Moroccan students, mobile phone user research, design iteration, and entrepreneurship to enable illiterate people in Morocco to make phone calls independently.

Microsoft Windows 8   Redmond, WA   Summer 2011
As a program manager intern, owned and drove a showcase application from feature specification to user interface design to implementation to bug triage.

One Earth Designs   Xining, China   Summer 2010
As an engineering intern, computational modeling (Matlab), field testing, and immersive user research of a durable, portable, affordable parabolic solar cooker for use in remote nomadic Tibetan regions of the Himalayas.

Army Corps of Engineers   Cary, NC   Summer 2008
As a high school senior computer consultant, parallelized a coastal water flow model (10K+ lines of FORTRAN) with OpenMP to reduce simulation time.

P R O J E C T S

Digital Signal Processing Audio Effects   Fall 2011
On a team of two students, wrote a feedback loop real time audio effect (C++).

Task Board Website   Fall 2011
As group manager on a team of four students, user research, personas, interaction design, usability testing, and implementation of a website for posting and customizing reminder notes by day (jQuery and CSS).

Suggest Places to Go Android App   Spring 2011
On a team of three students, Markov analysis of Foursquare checkins to recommend nearby Yelp places to go next (Java).

Music Theory Tutor Software   Spring 2011
On a team of two students, custom music notation entry for four voice part harmony exercises with immediate error detection (Python).

R E S E A R C H

Olin College Graph Theory Research   Spring 2012
As a student researcher for Dr. Sarah Spence Adams, graph theory research in L(2,1)-labeling and parallelizing automated labeling algorithms (Python).
paper doi: 10.1016/j.dam.2012.11.007

Olin College Miller Fellowship   Spring – Summer 2009
As a student researcher for Dr. Georgi Gospodinov, math research in knot theory and Khovanov Homology.

North Carolina State University   Summer 2006
As a high school lab assistant to Jian Shi and Dr. Ratna Sharma-Shivappa, analyzed effectiveness of *P. chrysosporium* cotton stalk pretreatment for ethanol production, paper doi: 10.1016/j.biombioe.2008.04.016