

N O U R A H O W E L L

EDUCATION

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

SKILLS

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

CONTACT

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EXPERIENCE

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.

PROJECTS

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).

RESEARCH

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