

MOLLY NICHOLAS

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instructables.com/member/molecule13/

EDUCATION

University of California, Berkeley

Fall 2011 - Spring 2014

B.A. in Computer Science & Cognitive Science

GPA: **3.591**

Clown Conservatory, Circus Center, San Francisco, CA

Fall 2007 - Spring 2009

Professional Clown Certificate

Knox College, Galesburg, IL

August 2005 - June 2007

GPA: **3.69**

Gymnazium Ludka Pika, Pilsen, Czech Republic

August 2003 - May 2004

EXPERIENCE

Qualcomm - Research & Development

June 2014 - Present

Engineer

San Diego, CA

- Invented, designed and developed a wearable device to facilitate engaging interactive experiences, and enable further hardware exploration called the **Qbadge**.
 - Worked with and managed the Diversity team, Dragonboard team, proto team, a small team of hardware and software developers, and promising interns to complete 130 Qbadges, from original prototype to completed product.
 - Drove requirements and worked tirelessly to hit every milestone on time.
 - Wrote an **Android app** to communicate with the Qbadges via **Bluetooth**, and drove the development of an Android app that collects BLE advertisements, and a web application that displays interaction events.
 - Worked with the Diversity and Campus teams to put on 3 events showcasing the Qbadges and the Dragonboard 410c, including the major event at the Grace Hopper Celebration.
- Developed the new **robot** control system for FIRST Tech Challenge, created two Android apps.
 - Created drivers for Motor and Servo Controllers, and over 15 different sensors.
 - Designed a popular Autoconfigure feature which scans for correct hardware, then creates the appropriate XML file.
 - Implemented and contributed to design of UI.
- Designed and constructed a streamlined system that reduced build time from 20 minutes to 4 minutes.
- Gained familiarity with kernel-level development, making changes to the Linux kernel to enable new hardware.

FabLab

October 2015 - Present

Geek in Residence

San Diego, CA

- Designed, developed, and taught classes.
 - Super Duper Simple Intro to Arduino
 - Introduction to Wearable Circuits
- Maintained open lab hours, upgraded and maintained systems and tools, developed community.

Invention Lab, UC Berkeley

April 2014 - June 2014

Inventioneer

Bay Area, CA

- Maintained open lab hours, upgraded and maintained systems and tools, supported community.

Qualcomm - Research & Development

May 2013 - August 2013

*Software Engineering Intern**San Diego, CA*

- Part of a team developing robotics applications for biologically-inspired neural networks.
- Added a custom scene using **Python** and C++ to a "virtual world" to train the neural network.
- Figured out how to implement collision detection in the Bullet physics engine through Gamekit.
- 3d modeling with **Blender**.

Bay Area Children's Theater

August 2011 - December 2011

*Puppeteer**Bay Area, CA*

- Bunraku-style puppetry: three people on one puppet.
- Bay Area Children's Theater: Told the story of 'Emil of Lönneberga'

Lucia Jacobs' CogEvoDevo Lab, UC Berkeley

August 2010 - January 2012

*Research Assistant and Lab Manager**Bay Area, CA*

- Designed and built an inexpensive, washable, easily movable, lockable experimental apparatus that reduced inter-trial set-up time by 90%. This highly modular system is now the template for the Jacobs Lab.
- Quickly became the expert on how to use the new data-gathering system (Ethovision). Trained all other personnel, developed experimental protocols, gathered data, analyzed data, and presented our work to the KodLab
- Organized, equipped, and maintained lab equipment. Coordinated and trained lab personnel.

Matt Walker's Neuroimaging Lab, UC Berkeley

August 2010 - December 2010

*Research Assistant**Bay Area, CA*

- Mastered the set-up and use of EEG, hdEEG, and sleep-monitoring equipment while helping subjects in experiments. Certified for fMRI safety.

Action Figures Convention Staffing

August 2009 - January 2010

*Event Staff**Bay Area, CA*

- Monitored room and greeted conference attendees. Mastered a new database and work-flow system for each show.

Lunatique Fantastique

June 2008 - September 2008

*Puppeteer**Bay Area, CA*

- Bunraku-style puppetry: three people on one puppet.
- Lunatique Fantastique: 3d live animation using found-object puppets telling the story of Avian Flu from the birds' point of view.
- www.lunfan.com/shows/2008_chicken.html

Bay Area Children's Theater

August 2007 - May 2008

*Performer (role: Alice)**Bay Area, CA*

- A circus adaptation of Lewis Carroll's classic story.
- Toured throughout the Bay Area and Northern California.

Bay Area Children's Theater

August 2007 - May 2008

*Costume Department**Bay Area, CA*

- Designed and constructed over 50 costume pieces for the touring production of *Alice in Wonderland*

Bay Area Children's Theater

August 2007 - May 2008

*Road Manager**Bay Area, CA*

- o Organized and managed transportation needs for the entire 9-person cast, props, and costumes during the 3-month tour.

San Francisco Circus Center

November 2007 - May 2009

Building Manager

Bay Area, CA

- o Email and phone correspondence, student-teacher liaison, various clerical duties as needed. Learned how to operate a fax machine.

Aerial Dance Chicago

June 2007 - August 2007

Costume designer, Assistant stage manager, intern

Chicago, IL

- o Designed and constructed costumes for the summer dance production, coordinated and ran lights backstage for the show, and performed general office duties.

Knox College

March 2007 - May 2007

Production Manager, Company Manager, Choreographer

Galesburg, IL

- o Coordinated over 80 performers for over 4 dance productions, acted as liaison between David Dorfman Dance and community performers. Choreographed dances with fellow students, and directed rehearsals.

Allegro Music Distribution

July 2006 - August 2006

Data Entry

Portland, OR

- o Entered the information for over 2,000 CDs into an Excel spreadsheet. Accurately typed song lyrics in French, German, Italian, Czech, and Russian at 96 wpm.

Knox College

September 2006 - May 2007

Costume Shop Teaching Assistant

Galesburg, IL

- o Designed and constructed costumes for theatre and dance productions.

British Embassy

December 2004 - May 2005

Entry-Clearance Assistant

Dhaka, Bangladesh

- o Processed, assessed, researched, and organized visa applications received at the British High Commission.

ABC School

October 2004 - May 2005

Volunteer

Dhaka, Bangladesh

- o Worked with children ages 1-17 at the ABC School, a school for homeless street children in the slums of Dhaka, Bangladesh.

Drama Teacher, American International School

October 2004 - December 2004

English Tutor, Pilsen, Czech Republic

September 2003 - May 2004

Cashier, Good Times Burger

June 2003 - August 2003

PROJECTS

Personal projects

instructables.com/member/molecule13/

Various

Various locations

- o Lightning Cloud: A glanceable weather indicator (Instructables).

Company projects

github.com/molecule

Various

Various locations

- Qbadge: a wearable device designed to facilitate engaging interactive experiences (github).
- Qbadge GHC app: Android app to communicate with BLE peripheral. Pending legal approval will be released as open source.
- FIRST Tech Challenge: new robot control system github.com/ftctechnh/ftc_ app.

Group projects

Critical Making

- Sketchboard: Longboard that draws on its underside with an XY-plotter moving based on your travels. Built with Arduino, a **laser cutter**, and more.
- adVenture: Site-specific installation capturing the wind from an air vent to move a paint spinner.
- 24 Hour Food + Fitness: Prototype for a concept product that provides an activity (fitness, meditation, math problems, etc) during the time that food is being prepared.

hackster.io/molecule

University of California, Berkeley

EVENTS

Qualcomm QWCC Conference

Jan 2016

- Sewable Circuits Workshop: workshop lead.

Latina Giving Circle

Jan 2016

- Circuit Stickers Workshop: workshop lead.
- Tech Talk: speaker.

Qualcomm DECA Conference

Jan 2016

- Sewable Circuits Workshop: workshop lead.
- Mentor.

Grace Hopper

Oct 2015

- Qualcomm HardWEAR Shindig (Qbadge event): event lead, speaker.
- Student Opportunity Lab: You++ [Resume Critique]: speaker.

EmpowHERment Conference, Qualcomm

Aug 2015

- Hackathon mentor, speaker

Society of Women in Engineering Event, FabLab

Oct 2015

- Hackathon mentor

TOOLS AND SKILLS

Languages	Java, Python, Arduino, bash, Czech
Tools	Git, Laser-cutter, Blender, Android Studio, Vim, Illustrator, MySQLWorkbench
Skills	Rapid prototyping, fabrication, creative problem-solving, project management

AWARDS

Qualstar (various)	Developing and driving Qbadge event
Language Achievement	Czech language achievement