

# Crystal Butler

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## Software | Research | Media | Product Development

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### Software Proficiencies

HTML5/CSS3

Java

Matlab

Adobe Creative Suite

Maya

JavaScript

C

R for Statistics

Final Cut Pro

MotionBuilder

SPSS

Autodesk Inventor

Vicon IQ

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### Experience

#### Research Assistant for Dr. Harriet Oster

January 2016 – present

Contributor to the development of a set of guidelines for identifying distinctive infant facial expressions.

- Select and comprehensively code distinctive expressions using the Facial Action Coding System.
- Assist in study design and execution.

#### Research Contractor for VisualEmotion

March 2015 – January 2016

Contract facial expression coding of infant videos using the Facial Action Coding System (FACS) and Baby FACS.

#### Co-founder of body-LAB

December 2013 – December 2014

Partner in a wearable technology startup, which launched a posture correction device, PosturePulse, in August 2014.

- Storyboarded and produced Kickstarter video.
- Assembled sample PosturePulse units, including applying final components to PCB.
- Produced rapid prototypes of wearable components using 3D additive printer and laser cutter.
- Developed casing design with Autodesk Inventor computer-aided design (CAD).

#### Information Technology Support and Research Associate at New York University

January 2013 – June 2014

Learning management system (LMS) research and support specialist for NYU's information technology services department.

- Designed and implemented a study to determine market penetration of the top LMSs.
- Provided training and support for NYU's learning management system, Classes (built on Sakai).
- Analyzed support tickets to extract actionable user experience data.

#### Intern at VicarVision

June 2013 – August 2013

Research intern for FaceReader, computer vision software that automatically identifies facial expressions.

- Developed a proof-of-concept 3D avatar that used FaceReader data to mimic human expressions.
- Created animations of an expressive 3D avatar for use in consumer psychology experiments.
- Assigned Action Units codes to facial expression image sets for validation of the FaceReader software.

#### President at Hack Manhattan

July 2012 - March 2013

Volunteer at a non-profit that provides facilities and outreach for creative experimentation in arts and technology.

- Conceptualized HM's first group project and produced the associated Kickstarter funding campaign.
- Administered facilities, coordinated workshops, and managed guest speaker schedule.

#### Project Associate for Adrienne Wortzel

June 2011 - February 2012

Assistant to a new media artist specializing in projects integrating technologies such as telepresence and robotics.

- Developed artist's Wordpress website.
- Edited video, text, and images for portfolio, grants, and residency applications.

#### Designer/Owner at SuperLuckyCat

December 1999 - April 2011

Founder of women's clothing line made using innovative practices to mass produce one-of-a-kind upcycled apparel.

- Generated technical packages using Adobe Illustrator, Photoshop, and Excel.
- Analyzed costs, sales trends, and material usage with product lifecycle management software.
- Created graphics and content for SuperLuckyCat web site, web boutique, and marketing materials.
- Researched consumer trends, fabrics, colors, and trims to develop seasonal merchandise assortments.
- Managed product development through sketch, sample and quality control of finished goods phases.
- Participated in all facets of business operations, including purchasing supplies, customer service, plant maintenance, accounting, hiring, and forecasting sales.

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## Independent Research

### Study Design, Execution and Analysis for MiFace Project

September 2014 - present

Primary investigator for a project that aims to build a large, parameterized database of facial expressions.

- Modeled a 3D avatar based on the Facial Action Coding system capable of mimicking human facial movements.
- Designed study text and layout for data gathering on Amazon's Mechanical Turk.
- Coded shell scripts and Java programs for data cleaning and preparation.
- Created analytical process for extracting centroids from datasets using natural language processing techniques.

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## Education

### New York University

Master's of Science Candidate, Computer Science, 2013 – May 2016 (expected graduation)

### New York University

Bachelor of Applied General Studies, Human-Computer Interaction, 2011 – 2013, Magna Cum Laude

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## Honors and Awards

### IEEE/IBM Watson 2015 Student Showcase

Winner, Top 5, November 2015

Awarded recognition and a monetary prize for developing a cognitive computing app using IBM's Watson services.

### MS Innovation Fellowship

New York University, Summer 2015

Support for research projects with commercial potential.

### Dean's List

New York University, Three Semesters

### McGhee Scholars Program

New York University, September 2012

An annual merit-based tuition grant, awarded to twenty-five outstanding students.

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## Publications and Presentations

Lewinski, P., Fransen, M. L., Tan, E.S.H., Czarna K., Butler C. (2014, July). *Facial mimicry predicts attitudes toward brand in persuasive video stimuli*. Paper presented at 17th General Meeting of the European Association of Social Psychology, Amsterdam, the Netherlands.

Lewinski, P., Tan, E.S.H., Fransen, M.L., Czarna, K. & Butler, C. (2014, June). Hindering facial mimicry in ad viewing: Effects on consumers' emotions, attitudes and purchase intentions. *Proceedings of the 13th International Conference on Research in Advertising*. Amsterdam, the Netherlands: European Advertising Academy.

Lewinski, P., den Uyl, T. M., & Butler, C. (2014). Automated facial coding: Validation of basic emotions and FACS AUs recognition in FaceReader. *Journal of Neuroscience, Psychology, and Economics*, 7(4), 227-236. doi: 10.1037/npe0000028

Ackerman, D., & Butler, C. (2013, June) *What's the Real Market Share of Sakai?* Co-presenter and Primary Investigator for Learning Management Systems research at the inaugural Open Apereo Conference, San Diego, CA, USA. <http://lanyrd.com/2013/apereo/schttb/>

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## Certifications

### Facial Action Coding System

FACS authors Paul Ekman, Wallace V. Friesen, and Joseph C. Hager

### NYC Master Composter

The Lower East Side Ecology Center

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## Volunteer Work

Club Officer for Women In Computing, NYU Courant  
STEAM Demonstrations  
Compost Committee Chair at Sixth Street Community Center  
stillspotting nyc Project Volunteer at Guggenheim Museum  
Artist's Intern at Eyebeam Art + Technology Center

January 2015 – present  
Various Dates  
May 2011 - August 2012  
June 2011 - May 2012  
June 2011 - September 2011

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## Personal Development

Introduction to Arduino: NYC Resistor  
Introduction to Laser Cutting: NYC Resistor

Intro to Max/Jitter: Eyebeam Art + Technology Center  
Biotechnology Crash Course: Genspace

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## Interests

User Experience, Natural Interfaces, Biometrics, Computerized Facial Recognition, Facial Expressions and Emotion, Machine Learning, Artificial Intelligence, Photography, Videography, Soft Circuits, Wearable Technology, Composting, Running