Crystal Butler

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Software | Research | Media | Product Development

Software Proficiencies

HTML/CSS/Javascript	Hadoop	Matlab	Adobe Creative Suite	Maya
Java	R for Statistics	SPSS	Final Cut Pro	MotionBuilder
C			Autodesk Inventor	Vicon IQ, OptiTrack

Experience

User Experience Intern at LifeBEAM April 2016 – Present

Using quantitative and qualitative measures, provide feedback on wearable technology products and associated apps.

- Create user groups based on defined user personas.
- Design and carry out usability studies for GUI, VUI, and other aspects of devices.
- Analyze study results to develop actionable insights.
- Communicate recommendations to stakeholders using reports and visualizations.
- Collaborate with product to suggest areas of improvement, feature requests, and future direction.

Research Assistant for Dr. Harriet Oster January 2016 – March 2016

Contributor to a field guide for identifying distinctive infant facial expressions.

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.

- Collaborated with professional videographer to storyboard and produce Kickstarter video.
- Assembled sample PosturePulse units, including applying final components to PCB.
- Produced rapid prototypes of device using 3D additive printer and laser cutter.
- Developed casing design with Autodesk Inventor computer-aided design software.

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 market penetration study of the top five LMSs at over 1500 post-secondary schools.
- 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.

Project Associate for Adrianne 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.

- Grew business to sales in excess of one million dollars annually.
- 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 and materials trends for development of seasonal merchandise assortments.
- Managed product development through sketch, sample and quality control of finished goods phases.
- Administered business operations, including purchasing supplies, customer service, plant maintenance, accounting, hiring, and forecasting sales.

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 for gathering over 16,000 data points 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.

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

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.

Publications and Presentations

Butler, C., Subramanian, L., Michalowicz, S. (2016, May). Crowdsourced facial expression mapping using a 3D avatar. *Proceedings of the CHI 2016 Conference on Human-Computer Ineraction.* San Jose, CA, USA. Association for Computing Machinery.

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. J*ournal 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, inaugural Open Apereo Conference, San Diego, CA, USA. http://lanyrd.com/2013/apereo/schttb/

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

Volunteer Work

Mentor for the GSA Junior Academy STEM Challenge	January 2016 – present
Club Officer for Women In Computing, NYU Courant	January 2015 – present
President at Hack Manhattan (community Maker Space)	July 2012 - March 2013
Compost Committee Chair at Sixth Street Community Center	May 2011 - August 2012
stillspotting nyc Project Volunteer at Guggenheim Museum	June 2011 - May 2012
Artist's Intern at Eyebeam Art + Technology Center	June 2011 - September 2011

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