

## Education

### Indiana University Bloomington

*Ph.D. Student in Cognitive Science & Neuroscience*

Bloomington, IN

**Aug. 2021 - Present**

### University of North Carolina at Chapel Hill

*Non-degree seeking*

Chapel Hill, NC

**Aug. 2019 – Dec 2019**

### Xavier University of Louisiana

*B.S. in Psychology*

New Orleans, LA

**Aug. 2013 - May 2017**

### Louisiana State University

*Worked towards a B.S. in Psychology*

Baton Rouge, LA

**Aug. 2012 - May 2013**

## Publications

**Laborde, Z.**, Toler, W., Velhal, K., Farag, T., & Chakra, A. (2019). Method and System for Implementing a Holistic Umbrella Drone. *IP.com*. Retrieved from <https://priorart.ip.com/IPCOM/000257353>

**Laborde, Z.**, & Cohen, J. (2016). Nostalgia and the Perception of Time. *XULAnEXUS*, 14(1), Retrieved from <https://digitalcommons.xula.edu/xulanexus/vol14/iss1>

## Conference Presentations

**Laborde, Z.** & Izquierdo, E. (2022, November). *Spatial Embedding of Edges in Synaptic Generative Model of C. elegans*. Poster presented at Neuroscience 2022, San Diego, CA.

**Laborde, Z.** & Izquierdo, E. (2022, October). *Spatial Embedding of Edges in Synaptic Generative Model of C. elegans*. Poster presented at the 2022 Graduate Research Symposium & Reception, Bloomington, IN.

**Laborde, Z.**, Stephenson, D., Reiss, A., Beaton, E., & Cohen, J. (2017, March). *Anterior-Posterior Insular Cortex Bisection Plugin for Mango*. Poster presented at the 24th annual meeting of the Cognitive Neuroscience Society, San Francisco, CA.

**Laborde, Z.**, Heatherton, T., & Lopez, R. (2016, August). *You've Got a Friend in Me: Effects of People-based Cues on Amygdala, Orbitofrontal Cortex, and Dorsomedial Prefrontal Cortex*. Poster presented at the 2016 ASURE Poster Night, Hanover, NH.

**Laborde, Z.**, Heatherton, T., & Lopez, R. (2016, July). *Learning to Lose Focus: Relationships Between Reward-Learning, Multitasking, and Distractibility*. Powerpoint presented at the 2016 Leadership Alliance National Symposium, Stamford, CT.

**Laborde, Z.** & Cohen, J. (2014, November). *Nostalgia and Time Dilation*. Powerpoint presented at the 12th Annual Charles A. Gramlich Psychology Research Symposium, New Orleans, LA.

## Research Experience

### Indiana University Bloomington

*Research Assistant*

Bloomington, IN

**Aug. 2021 - Present**

Professor Eduardo Izquierdo

- Invented algorithm for more efficiently approximating levelset on a high-dimensional manifold
- Simulated the development of a *C. elegans* connectome with a generative model, leading to improved accuracy compared with existing models
- Created an interactive, online application for the dynamical analysis of multi-compartment cellular differentiation using multiple control mechanisms (see <https://nanohub.org/resources/dynsysregen> )

**Xavier University of Louisiana***Research Assistant*

Professor Jeremy D. Cohen

- Designed, administered, and published a 20 person research study on nostalgia and the perception of time
- Developed several pieces of software, including one automating a 2-4 hour manual process

New Orleans, LA

**Aug. 2014 - Jul. 2017****University of New Orleans***Research Assistant*

Professor Elliot Beaton &amp; Professor Jeremy D. Cohen

- Taught three members how to accurately trace the Insula using the Multi-image Analysis GUI (Mango) MRI program
- Created several shell scripts for transforming tensor neuroimaging data using Advanced Normalization Tools (ANTs)

New Orleans, LA

**Aug. 2015 - Dec. 2016****Dartmouth College***Summer Undergraduate Laboratory Internship - Research Assistant*

Professor Todd F. Heatherton

- Compiled and analyzed gigabytes of 4-dimensional fMRI data using R, SPM, and FSL for correlations between the vmPFC, the reward network, and attention scores from tests developed in MATLAB

Hanover, NH

**Summer 2016****Work Experience****IBM***Full Stack Developer*

Netcool Operations Insight - Artificial Intelligence Operations

- Developed features to automate event analytics analysis and prediction for operation engineers using machine learning

Research Triangle Park, NC

**Apr. 2020 - Present***Full Stack Developer*

IBM Cloud Event Management

- Developed two internationally-used mobile apps for both Android and iOS

**Nov. 2018 - Apr. 2020***Front End Developer*

IBM Cloud App Management

- Created front-end visualizations of topological data and analytics

**Apr. 2018 - Nov. 2018***Site Reliability Engineer*

IBM Hybrid Cloud

- Responded to high severity alerts related to several IBM cloud applications
- Automated entire team, saving IBM approximately \$1,000,000/year

**Jul. 2017 - Apr. 2018****Xavier University of Louisiana***Supplemental Instruction Leader*

Psychology Research Methods Spring 2016, Fall 2016

- Co-founded program with Professor Kate Eskine
- Arranged interactive sessions to help students learn research methods

New Orleans, LA

**Jan. 2016 - Dec. 2016****Tastee Donuts***Assistant Manager**Cashier / Cook / Fryer*

Metairie, LA

**Jun. 2015 - Feb. 2016****Jun. 2010 - Aug. 2012, Jun. 2013 - Jun. 2015****Louisiana State University***Archivist*

Baton Rouge, LA

**Aug. 2012 - Dec. 2012****Skills & Training**

**Coursework:** Computational Modeling of Evolutionary and Adaptive Systems, Neural Engineering, Computational Bioengineering, Theories of Learning and Memory, Machine Learning, Computer Architecture, Network Science, Dynamical Systems Theory, Linear Algebra, Discrete Mathematics

**Languages:** Python, Mathematica, R, C++, Java, JavaScript (Node, React, Angular), Matlab, Groovy, Ruby

**Applications:** Jupyter Notebooks, Advanced Normalization Tools, SPM, FSL, ITK-SNAP, Multi-Image Analysis GUI (Mango)

**Software:** PyTorch, OpenAI Lab, NetworkX, NumPy, SciPy, Matplotlib, TensorFlow, Bash, Linux, BIOS, Git, LaTeX, Kubernetes, Docker, Watson SDK, Jenkins, Hadoop, Spark

**Team Management:** Agile, Scrum, Design Thinking

## Leadership Positions

<b>IBM</b> <i>Agile Workspace Super Champion</i>	Research Triangle Park, NC <b>Dec 2018 - Present</b>
---	---

<b>IBM New Hire Network</b> <i>Treasurer</i>	Research Triangle Park, NC <b>Aug. 2017 - Aug. 2018</b>
---	--

<b>Speech &amp; Debate Team - Xavier University of Louisiana</b> <i>President</i> <b>2017</b> <i>Vice President</i> <b>2016</b> <i>Treasurer</i>	New Orleans, LA <b>May 2016 - May</b>  <b>May 2015 - May</b>  <b>Aug. 2014 - May 2015</b>
---	--

<b>Speech &amp; Debate Team - Louisiana State University</b> <i>Treasurer</i>	Baton Rouge, LA <b>Aug. 2012 - May 2013</b>
--	--

## Honors & Awards

*Rebec Fellow*, Indiana University Bloomington, 2022  
*Security and Privacy by Design Foundations* Badge, IBM, 2019  
*IBM Cloud Private - Continuous Integration/Continuous Delivery* Badge, IBM, 2019  
Jumpstart Scholar, IBM, 2019  
Manager's Choice Award, IBM, Q1 2018, Q1 2019  
People's Choice Award, IBM Developer SLAM, 2018  
*IBM Developer Jumpstart - Explorer* Badge, IBM, 2018  
*IBM Developer Jumpstart - Practitioner* Badge, IBM, 2018  
*Deep Learning* Badge, IBM, 2018  
*Docker Essentials with Watson Conversation* Badge, IBM, 2017  
*IBM Cloud Essentials* Badge, IBM, 2017  
*Enterprise Design Thinking Practitioner* Badge, IBM, 2017  
Who's Who Among Students in American Universities and Colleges, 2017  
1st Place, Xavier-Dillard Coding Competition, 2017  
Dean's List, Xavier University of Louisiana, Fall 2015, Spring 2016, Spring 2017  
National Semifinalist in Impromptu Speaking, Forensics Novice Nationals, 2013  
National Semifinalist in Impromptu Sales, Forensics Novice Nationals, 2013  
National Competitor in Extemporaneous Speaking, American Forensics Association's National Individual Event Tournament, 2013

## Volunteer Experience

<b>St. Augustine High School Debate Coach</b> 70+ hours	New Orleans, LA <b>Aug. 2015 - May 2017</b>
--	--