Jesse Parent

Boston, MA, USA
www.jesparent.com | jesse@alumni.albany.edu
Google Scholar | Research Gate | GitHub

Curriculum Vitae

EDUCATION

B.S. in Informatics *2016 - 2019*
Concentration: Information Technology & Data Science
GPA 3.7 / 4.0
University at Albany, State University of New York

Additional Training - Supplemental Graduate
MITx Micromasters: Statistics & Data Science *2021-2022*

Additional Training - Summer Schools
Neuromatch Academy (Intensive) *2020*
MIT Center for Brains, Minds, Machines *2020*

RESEARCH EXPERIENCE

Assistant Scientist *05/2019 - Present*
Lab Manager *06/2020 - Present*
Orthogonal Research & Education Lab (OREL)
PI Dr Bradley Alicea

Two major research groups teams within Orthogonal Research & Education Lab:

- **Meta-Brains: Representational Brains & Phenotypes**. Using existing and developing modeling software, investigations into modeling embodied cognition with developmental Braitenberg Vehicles to study neurobehavioral complexity. Initiated as a working group affiliated with Google Summer of Code '19 and International Neuroinformatics Coordinating Facility. (3 Publications / Presentations)
- **DevoWorm/DevoLearn**: An OpenWorm subgroup. Focus on machine learning applications for developmental biology. Created related learning materials in modeling

brain functioning and behavior, connectomes, and other areas of computational neuroscience / cognitive science.

Group Leader: **Cognition Futures** *(09/2020-Present)*

- Team Leader. Recently established research subgroup, including supervising 1-2 undergraduate researchers from within the main lab.
- Ongoing Projects:
    - A Survey of Computational Models of Cognition. A cataloguing and taxonomy project using Marr's level of analysis to categorize existing cognitive models by analyzing technical components and philosophical background.
    - FrontierMap: Self-directed project to create learning, educational, and coding-based resources for students; a set of primers to allow background and context for study in various fields of computation, cognitive science, and brain-mind-machine related topics. (Abstract submitted to ACM's Collective Intelligence 2020 Conference)

Lab Manager

- Managing a distributed lab of ~10 active members and associated projects
- Project management for lab projects, meetings and events
- Editing support: papers, abstract submissions, proposals, GitHub, social media
- Office hours and professional development meetings with lab members to encourage development as scientists and productive researchers
- Outreach and event management leading to 20+ researchers engaging with OREL-associated events (such as Neuromatch Academy study group)

NEUROSCIENCE *08/2018 - 05/2019*

Research Assistant, Scimemi Lab
Biology Department, University at Albany
PI Dr Annalisa Scimemi

Objective: Investigating rhythmic cycles in biological systems.
Method: Investigating circadian rhythm indirectly through EEG.

- Task: Setup and operation of highly customized instruments to record brain activity in mice (LWDAQ). Collaboration with PI and device creator, K. Hashemi, of Open Source Instruments.
- Using subcutaneous transmitters on P14-21 mice, we investigated if patterns of brain wave activity indicate circadian rhythm even at early stages of development, and compare findings to mice at other stages of maturity.

- Aside from hardware and networking, I installed and tested device-specific software to record and process our data. During testing, we found a bug where frequencies directly on binning boundaries were ignored - our collaborative efforts led to a software update and improved performance.

APPLIED INFORMATICS and COMPUTER SCIENCE *08/2018 - 05/2019*
Research Assistant, Berg Research Lab
Informatics Department - CEHC, University at Albany
PI Dr. George Berg

Spring 2019: Drone Swarms & Autonomous Systems

- Objective of building drone capacity at newly unveiled drone & robotics research lab space on campus. Contributed to initial documentation and testing of drone capabilities.
- Programming Tello Drones in Python + Scratch to test patterns and capabilities for downstream development in coordinated drone behavior.
- Lead project manager, research focused on coordinated behavior in autonomous systems and how to apply as we develop drone capacity on campus.

Fall 2018: Computer Vision for 3D Printing Error Correction

- Hardware testing for computer vision applications in monitoring development of 3DP (Google Vision, various laptops/cameras).
- Contributed to machine learning training set for printing errors. Design, testing, troubleshooting, and of multiple 3DP projects.
- Learned and applied basic elements of machine learning programming (TensorFlow/Lite) and 3DP software (Blender, Slic3r).

CYBERSECURITY INFORMATION SHARING *03/2018 - 05/2019*
Research Assistant, SSCIS Research Team
SUNY Research Foundation and CECH, University at Albany
PI David Turetsky J.D. (with Dr. Brian Nussbaum & Dr. Unal Tatar)

Objective: Investigation of cybersecurity information sharing practices.
Role: Student Researcher, and Logistics Lead for conference supported $50,000 Research Grant from William and Flora Hewlett Foundation.

- Advanced Responsibilities: Chosen for logistics role typically assigned to graduate student due to competence and past research experience.
- Research: Student researcher, focus on academic literature and conceptualization of information sharing frameworks. Investigated quantification for success of information

sharing practices. Conducted interviews with industry experts. Forthcoming working paper and academic paper on our findings.
- Project Management & Conference Planning: Coordinated private event hosting 20 invited experts to discuss information sharing, and afternoon public-facing panels for campus and local community. Responsible for conference logistics, planning, lodging, website administration. Affiliated conference cosponsored by Multi-State Information Sharing and Analysis Center (MS-ISAC) & The Center for Internet Security.

HUMAN-ROBOT INTERACTION *03/2017 - 01/2018*
Research Assistant, INSPIRE LAB
College of Engineering & Applied Sciences, University at Albany
PI Dr. Yelin Kim

Objective: enhance intelligent system's ability to understand complex human social interaction. Contributed to database of multimodal approaches to interpreting social activity.
- Using video footage of humans of different relationship categories, analyzed non-verbal behaviors and expressions as cues for relationship status
- Developed new metric for interpreting and modeling social & relational context in human-robot interaction.
- Contributed to affective computing database through multidisciplinary research: synthesizing insights from psychology, behavioral science, communication, and human-machine interaction.
- Lead author on paper published and presented at conference; project featured in University promotion of undergraduate research.

SUSTAINABLE INTERNATIONAL DEVELOPMENT *Winter 2009-2010*
UMass Amherst & Global Ecovillage Network
Dakar and Mbam, Senegal

- Economic and cultural training in Dakar, Senegal
- Investigated stressed loans in sustainability-related microfinance operations in the village of Mbam. Findings indicated that recipient group composition significantly impacted success of loans, along lines of age, social status, and experience.

AWARDS and GRANTS

National Science Foundation - Graduate Fellowship

- 2021 CSGrad4US - CISE Fellowship

Grants Awarded

- 2021 Effective Altruism Career & Research Advancement Grant
- 2019 Student Research Grant - Center For Undergraduate Research, University at Albany
- 2019 Research Travel Grant - Center For Undergraduate Research, University at Albany

Scholarships and Awards

- 2020 Introduction to Agent-Based Modeling, Coursework Scholarship - Sante Fe Institute
- 2020 New England Complex Systems Institute: Student Tuition Scholarship
- 2020 Center for Undergraduate Research: “Alumni Spotlight”, University at Albany
- 2019 AAAI International Conference: Student Volunteer Scholarship
- 2017 Annual Bulletin for College of Engineering & Applied Science: “Spotlight in Undergraduate Research”, University at Albany
- 2016-2019 Dean’s List, University at Albany

Project Aide Compensation

SUNY Research Foundation, Albany NY

- Hired as a research assistant as part of a $50,000 Research Grant from William and Flora Hewlett Foundation.

PUBLICATIONS

Papers

Bradly Alicea**, Jesse Parent**, Ujjwal Singh. “Periodicity in the embryo: Emergence of order in space, diffusion of order in time.” Biosystems 204, June 2021

Bradly Alicea, Daniela Cialfi, Anson Lim, **Jesse Parent**. “Allostasis Machines: a model for understanding internal states and technological environments.” ACM CHI - Workshop in Emergent Interaction. May, 2021 [Accepted]

Stefan Dvoretskii, Ziyi Gong, Ankit Gupta, **Jesse Parent**, and Bradly Alicea. “Braitenberg Vehicles as Developmental Neurosimulation.” February, 2020 [Preprint]

Jesse Parent and Yelin Kim. “Towards Emotion Recognition with Automatic Social and Relational Context Discovery in HRI Systems.” The AAAI Fall Symposium Series: Artificial Intelligence for Human-Robot Interaction (AI-HRI). November, 2017. [Link]

In Review

Jesse Parent. “Cyborg Cognitive Futures: From Partitioned Pasts Towards A Symbiotic Century.” ALIFE 2021 [Submitted]

Essays & Trade Papers

- Bradly Alicea, **Jesse Parent**, and Ankit Gupta. “The illusion of structure or insufficiency of approach? the un(3) of unruly problems.” Foundational Questions Institute. Essay Contest, April 2020. [Submitted]

- Brian Naussbum, Unal Tartar **Jesse Parent,** Manpreet Duggal, Meghan Anderson, David Turetsky, ”Success Stories in Cybersecurity Information Sharing” [Preprint]

Other

- Bradly Alicea, Richard Gordon, Abraham Kohrmann, **Jesse Parent**, Vinay Varma. “Pre-trained Machine Learning Models for Developmental Biology”, The Node, October 29, 2019. [Link]

Notable Non-Accepted

- **Jesse Parent** and Valeria Schnake. “Bridging the Gap: An Interdisciplinary Examination of Implementing AI Ethics”, ACM Special Interest Group in Artificial Intelligence, Student Essay Contest Submission 2019. ACM SIGAI [Submitted]

ACADEMIC PRESENTATIONS

Princeton Envision 2021 (April 2021, Virtual)

- **Jesse Parent.** “A Brief Overview of Cognition Futures: Mapping the Frontiers and Trajectories” [Accepted]

ACM New York Celebration of Women in Computing 2021 (April 2021,Virtual)

- **Jesse Parent,** Krishna Katyal, Shruti Raj Vansh Sing, Erin Higgs, Mihn Tran, Daniela Cialfi, Bradly Alicea. “Challenges and Opportunities in Integrating Critical Voices in AI Ethics: Towards Unified Ethical Frameworks in AI” [Accepted]

International Workshop on Embodied Intelligence (March 2021)

- **Jesse Parent** "Frontier Map and Cognition Futures: Embodied Intelligence + A Survey of Computational Models of Cognition" [Accepted]

ALIFE 2020 - DevoNN Workshop (July 2020)

- B Alicea, S Dvoretskii, S Felder, Z Gong, A Gupta, **J Parent. "**Developmental Embodied Agents as Meta-brain Models" [Accepted]

Neuromatch 2.0 (May 2020: Virtual Conference, www.neuromatch.io)

- **Jesse Parent**."Embodied Cognition & Contextual Neurodevelopmental Dynamics : Modeling Levels of Representation with Developmental Braitenberg Vehicles" [Accepted]

ACM Collective Intelligence 2020 (June 2020, Boston)

- Bradly Alicea and **Jesse Parent**. "Perspectives (to) Diverse Computational Societies", ACM Collective Intelligence 2020. June 18, 2020 [Submitted]

csv,conf,5 (May 2020: Washington, D.C.)

- Bradly Alicea and **Jesse Parent**."Epistemological Directories for Research Development and Education" [Accepted]

ACM New York Celebration of Women in Computing 2020 (April 2020: Poughkeepsie, NY)

- **Jesse Parent**, Valeria Schnake, Anson Lim, and Angela Pang. "AI In Our Careers". April 3, 2020. [Accepted]
- **Jesse Parent**, Tina Tarquinio, Mark Abrams, Quinn Miller. "My Job Is So Cool", Recent Graduate Career Panel. April 4, 2020. [Invited]

Neuromatch UnConference 1.0 (April 2020: Virtual Conference, www.neuromatch.io)

- **Jesse Parent**."Exploring Embodied Cognition Through Neurodevelopmental Braitenberg Vehicles" [Accepted]

Organization for Human Brain Mapping - Equinox 2020 (March 2020)

- **Jesse Parent.** "Developmental Braitenberg Vehicles" [Accepted]

UAlbany Undergraduate Research Conference (2017, 2019: University at Albany)

Jesse Parent:

- 2019 "Multidisciplinary Research in Brains, Minds, and Machines" [Link]
- 2019 "Indirect Observation of Circadian Rhythm via EEG Activity in Young Mice"; "Exploring Drone Swarms and Autonomous Systems"
- 2017 "The Well-Tended Hearth" Presented coursework in Education Administration, Informatics Peer Educator.
- 2017 Poster Presentation: "Towards Emotion Recognition with Automatic Social and Relational Context Discovery in HRI Systems", and associated talk on published paper.

Informatics Showcase (2017-2019: University at Albany)

Jesse Parent:

- 2019 “Indirect Observation of Circadian Rhythm via EEG Activity in Young Mice”; “Exploring Drone Swarms and Autonomous Systems”
- 2018 Poster Presentation: “Privacy, Security, and The Internet”
- 2017 Poster Presentation: “Towards Emotion Recognition with Automatic Social and Relational Context Discovery in HRI Systems”, and associated talk on published paper.

ACM New York Celebration of Women in Computing 2019 (April 2019: Lake George, NY)

- **Jesse Parent** and Valeria Schnake. “Current Challenges and Opportunities in AI Bias”

Summer AGI Discussion Group (Summer 2018: Albany, NY)

- **Jesse Parent**. Led a weekly student-run discussion group going over Lex Fridman's MIT Artificial General Intelligence OCW

Tech Valley AI, ML, Data Science Meetup (Winter 2017: Troy, NY)

- **Jesse Parent.** “The Troubles of Quantifying Human Social Interaction and Emotion” - presentation on published work in human-robot interaction

Association for the Advancement of Artificial Intelligence (AAAI)
2017 Fall Symposium: AI for Human-Robot Interaction Track (November 2017: Arlignton, VA)

- **Jesse Parent.** “Towards Emotion Recognition with Automatic Social and Relational Context Discovery in HRI Systems”, presentation and research poster discussion session.

Undergraduate Research Spotlight (Fall 2017 University at Albany)

- **Jesse Parent.** Interviewed and filmed for promotional material concerning work on human-robot interaction. Content also featured in College of Engineering & Applied Science’s Annual Bulletin.

ACADEMIC INVOLVEMENT

Teaching & Academic Support

- *Peer Educator, Informatics Department: Spring 2017*
  Primary focus on Informatics networking coursework, but assist students from various Informatics courses who came to weekly office hours.

- Associated coursework (EAPS 390) in Educational Administration & Leadership, where I studied successful academic environments and discussed my role as a Peer Educator.

Professional Membership

- ACM, AAAI, IEEE, Society for Neuroscience

Student Involvement

- UAlbany: ACM, ACM-W, IEEE, ASIS&T, UAlbany Students Stopping Trafficking & Exploitation of People (SSTEP), UAlbany, e-NABLE, Robotics Club, Cyber Defense Organization
- Geneseo: GOLD Leadership Development Program (4 years of training, 2 years of being a Leader Mentor); Co-Founder of “The Ghana Project” (cultural group and fundraising for education in W. Africa); Executive Board: Geneseo Environmental Organization; Managing Editor: IR/PLSC Student Publication

Competitive Conference & Event Invitations Awarded

- 2021 Princeton Envision (Research Symposium)
- 2021 International Workshop on Embodied Intelligence
- 2019 Princeton Envision, Natural & Computing Science Track (Princeton University)
- 2019 AAAI 2019, Student Volunteer Scholarship (Honalulu, Hawaii)
- 2018 Princeton Envision, STEM track (Princeton University)
- 2018 Machine Intelligence Conference (MIT Media Lab)
- 2018 Princeton Medihack, Neuroscience Track (Princeton University)
- 2017 Princeton Envision, AI/Xrisk Track (Princeton University)

Other Events & Volunteering and Engagement

- 2020 NeurIPS (Volunteer)
- 2020 International Conference on Machine Learning (Volunteer)
- 2020 International Conference on Learning Representations (Volunteer)
    - 2020 ICLR Workshop: Bridging AI and Cognitive Science (BAICS)
- 2020 Academic Reading Groups:
    - Embodied Cognition (Western Michigan University)
    - Emergence (Boston University)
    - DevoWorm and Saturday Morning Neurosim (Orthogonal Lab)
- 2018 Life Sciences Symposium (University at Albany)
- 2018 Success Stories in Cybersecurity Information Sharing (University at Albany)
- 2018 Society for Neuroscience Hudson-Berkshire Chapter Annual Meeting (Troy, NY)
- 2018 State of Grace: A Celebration of Women in STEAM (University at Albany)
- 2017 Perspectives on Human Trafficking in the Capital Region (University at Albany)
- 2017 Open Data Science Conference (ODSC East), (Boston, MA)
- (Various) Tech Valley Machine Learning, Data Science, AI Meetup (Troy, NY)

- 2016 Ethics of Artificial Intelligence (NYU Center for Brain, Mind & Consciousness and NYU Bioethics)

Nearly Made It

- 2018 Mindfire Global - Mission 2 (Davos, Switzerland)
  Climbed to final round of competitive interviews to collaboratively study biologically inspired computing and “human-level AI”. Missions since put on indefinite hold.

SPEAKING & OUTREACH

- 2021 “Trajectories in Cognitive Science” (Lead Organizer, Co-Host), CogSci ‘21
- 2021 “Thinking about Grad School” (Panelist) - Breakout Session at NYCWiC ‘21
- 2021 “Male Allies” (Moderator) - Breakout Session at NYCWiC ‘21
- 2021 “Embodied Intelligence” - IEEE Soft Robotics Podcast
- 2020 University at Albany: Undergraduate Research Alumni Panel (Presenter)
- 2020 Lego First Junior League: Workshop at University at Albany (Judge & Reviewer)
- UAlbany Prospective Student Open House (2017-19: University at Albany)
  - Three-time invited representative for the Informatics Department
  - Presentation on student experience, research experiences and opportunities as a nontraditional student. Ambassador to potential students.

PROFESSIONAL EXPERIENCE

Information Architect and Research Associate *2021 - Present*
Therap Services

- Weekly reports to CTO and CEO.
- Designed, innovated, and maintained a sprawling categorization and taxonomy system for hundreds Health Tech, IoT, and Biometric data devices. Scouting reports, documentation, and research on cutting-edge Health Tech hardware and technologies.
- Managed administrative for R&D Team of ~10 including research conference and event coordination, purchases.
- Assigned special projects for proprietary and cutting-edge company efforts.

Director of Strategic Initiatives *2021 - Present*
Stealth Mode AI Group

- As of May 2021, I have joined a group of artificial intelligence researchers as a leader focused on growth and development of strategic partnerships, outreach, and product

advances to further both acquisition prospects and refine contributions to the broader AI research community. Details limited at this time.

Technical Content Editor + Web Developer, Albany, NY *2015 - Present*
New York State Energy Research & Development Authority (NYSERDA)
Web Operations & IT Department

- Member of four-person Web Team managing research-based State government organization's web presence. Responsible for editing and development assistance for 2000+ web pages and related CMS management for thousands of files, reports, and associated content.
- Grace under pressure: posting and preparing highly visible material to coincide with New York State Governor's press releases and other government events.
- Project Management & HelpDesk: first point-of-contact for users of all technical-abilities seeking to have their technical, marketing, financial, or legal material posted on website. Effectively prioritized dozens of work order tickets across numerous projects daily.
- Tools and Skills: quality assurance, accessibility, SiteCore, InMotion, SiteImprove, copyediting, Sharepoint, Salesforce, MSOffice, Adobe Creative Suite, HTML+, CSS, Javascript.
- Commended by CEO of NYSERDA for Web Ops work on statewide energy project.

Previous Work Experience

- 2018-2019 **Project Aide & Researcher** (SUNY Research Foundation)
  -- See Cyber Security Information Sharing research experience

- 2014-2015 **Digital Marketing Specialist & Copywriter** (eightohtwo & Green Mountain Information Technology)
  -- Copywriting & Analytics reporting for various businesses including Fortune 500s.

- 2011-2014 **Senior Editor, Technology Desk** (Wikistrat)
  -- Synthesizing various experts across regional and topical foci into coherent reports and running simulations for an international strategic forecasting organization

- 2010-2014 **Consultant & Contributor** (Learnist, a Grockit Company)
  -- Writer and web platform / app content creator at a Bay Area startup focusing on politics and technology

SERVICE & VOLUNTEERING

- 2021 Neuromatch Academy. Outreach & Editing
- 2021 Princeton Envision. Outreach
- 2020 NeurIPS Volunteer. Technical Support
- 2020 ICML Volunteer. Technical Support
- 2020 Neuromatch Academy. Copy editing & social media
- 2020 ICLR Volunteer. Technical Support
- 2020 Neuroethics Today - Podcast Team
- 2020 Grant Writer's Assistant: (CarbonCopies.org - Brain Emulation)
- 2020 International Conference on Learning Representations (Technical Volunteer)
- 2019 Girl Scouts Code (High School Coding Event)
- 2019 Brain Awareness Day (High School STEM Event), Guilderland, NY
- 2018-2019 UAlbany Students Stopping Trafficking & Exploitation of People
- 2017 e-NABLE (Volunteer design and printing of 3D Prosthetic hands)
- 2017 March for Science, Albany, NY