

# VICTORIA CAO

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## WORK EXPERIENCE

### MICROSOFT | SOFTWARE ENGINEER INTERN

Remote | Redmond, WA | May 2021 - Present

- Integrating Distributed Application Runtime (DAPR) to Azure App Services

### BEACON LAB | UNDERGRADUATE RESEARCH ASSISTANT

East Lansing, MI | Aug 2019 - Feb 2021

- Assistant in the Digital Evolution Lab under Dr. Ofria and Graduate Student Clifford Bohm researching mental model development through genetic programming and developing MABE software
- Tested additive learning in autonomous organisms through computationally evolving Artificial Neural Networks within a Modular Agent-Based Evolver to simulate autonomous vehicle decision making
- Researched genome frameworks for optimized memory usage, and created a structure that optimizes shift mutation on 75kb and larger genomes for MABE2 development

### MI-OSIRIS | UNDERGRADUATE RESEARCH ASSISTANT

East Lansing, MI | May 2019 - July 2019

- Investigated methods to integrate AWS s3 storage with an Integrated Rule Oriented Data System (iRods) to optimize bioinformatics workflow between Van Andel Institute and MSU
- Integrated iRODS automated ingest of metadata application and access policies to users in AWS s3 buckets
- Participated in MSU iCER Advanced Computational Research Experience for Undergraduates funded by NSF CC\*DNI DIBBs under mentor Andy Keen

### HERCULEZE TECHNOLOGIES | WEB DEVELOPER INTERN

Rochester, MI | May 2019 - August 2019

- Troubleshoot bug errors from existing website and added features to improve website functionality
- Changed manual address insertion by implementing Google Maps API auto-complete search within marketplace using Javascript, HTML, and Perl
- Created widgets using PHP within Wordpress for home page to enhance customer website navigation and easy website editing for future IT team

## EDUCATION

### MICHIGAN STATE UNIVERSITY

Honors College | Aug 2018 - Present

#### BSc. COMPUTER SCIENCE

GPA: 3.92

Awards: Honors College Research Scholars Program

Coursework: Algorithm Engineering, Big Data Analysis, Computer Vision, Machine Learning, Parallel Computing

## PUBLICATIONS/PRESENTATIONS

### Publication in 2021 Conference on Artificial Life (ALIFE)

STATUS: ACCEPTED

- **Title:** Tracking data flow in digital brains exposes coincidental encryption
- **Authors:** Douglas Kirkpatrick, Victoria Cao and Clifford Bohm

### Presentation in 2019 Mid-Michigan Symposium for Undergraduate Research (MID-SURE)

- **Title:** Optimizing bioinformatics workflow and organizing big data with iRODS and Amazon S3
- **Authors:** Victoria Cao and William Dixon

## PROJECTS

### MSU COURSE PLANNER WEB APPLICATION

PYTHON, SELENIUM, JAVASCRIPT

Web application to plan future semesters for Michigan State University students based on major, minor, and previously accredited courses. All programs and courses scraped from Michigan State University's website through selenium.

## SKILLS

Languages: C++, Python

Technology: AWS, Azure, Docker, Git

Web Development: JavaScript, CSS, HTML

Software: Photoshop