Brittany Cates

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## EXPERIENCE

#### **Data Scientist**

Fort Collins, CO

Mountain Data Group

May 2022 - Present

o Neural Network Forecasting Model: implementation of model to predict performance of elite athletes. Improved performance of model with automated tuning of hyperparameters, along with sorting and weighting samples according to predictive relevance

- Message Classification: built NLP models for detecting dimensions of interest in text communications
- o Applied Planning for Training Programs: used machine learning techniques to design efficient training programs
- o Data Analysis: of economic measures in order to assess risk and resource accessibility

# Student Unity Developer/VoxML Researcher

Fort Collins, CO

Colorado State University

August 2021 - May2022

- Researched and developed: Researched and developed on the VoxWorld platform for embodied agents.
- Documented and tested: Documented and tested tutorial implementations and built pipelines for multiple platforms, writing and maintaining documentation. Facilitated knowledge transfer of the platform to other researchers.

### Corporate Travel Specialist

Oak Ridge National Laboratory

September 2014 - May 2022

- o Demonstrated customer service skills: worked with Oak Ridge National Laboratory employees to arrange corporate travel in support of the scientific mission of the lab.
- Quickly adapted to changing software and procedures: met evolving technological and security needs.
- o Collaborated as a team: worked with other travel specialists, administrators, auditors, and managers to meet the needs of the Oak Ridge National Laboratory and their scientists

### **EDUCATION**

# Colorado State University

Fort Collins, CO

Ph.D. - Computer Science; GPA: 4.0

Expected May 2027

Courses: Machine Learning, Natural Language Processing, Engaging in Virtual Worlds, Software Engineering, Operating Systems, Algorithms, Statistics, Linear Algebra, Calculus

### Middle Tennessee State University

Murfreesboro, TN

Bachelor of Science - Psychology; GPA: 3.6

Courses: Advanced Research Methods, Advanced Statistics for Behavioral Sciences, Cognitive Psychology, Sensation and Perception

# SKILLS SUMMARY

• Skills: Statistical Modeling, Data Analysis, Artificial Intelligence, Machine Learning, Natural Language Processing

Test Driven Development, Clean Code, Continuous Integration

• Soft Skills: Writing, Communication, Leadership, Time Management, Event Management

• Tools: Git, Jupyter Notebooks, SciPy, NumPy, Pandas, SQL, Keras, Unity, Blender, Visual Studio, Pycharm

• Languages: Python, C++, C, C#, Java, JavaScript, HTML, R

#### Projects

- Planning for Attacker Entrapment in Adversarial Settings: Planning framework for generating defense strategy without attacker knowledge. Published/presented at ICAPS 2023 (November 2022)
- Classification of MPII Human Pose Dataset using Neural Network: Used a neural network to classify activities portrayed in images, based on the pose of the person in the image. Tech: Python, Jupyter Notebooks, NumPy, SciPy, Pandas (May 2021)
- Unity Game Project: Created 3D game using Unity game engine. Used Blender to develop and animate character models. Tech: Unity, Blender, C#. (December 2021)
- Navigation Application: Created a mobile, single page application and restful API services during a semester-long, team-based Agile software development project in a team setting. Tech: JavaScript, GitHub, ZenHub, Markdown, JUnit, Jest (December 2021)

#### Organizations and Leadership

- President ACM-W Association of Computing Machinery's Council on Women in Computing: Maintained relations with supporting companies, organizations, and faculty. Arranged events such as banquets and talks from companies. Managed other officers by delegating tasks.
- Event Planner ACM Association of Computing Machinery: Helped presenters on campus, scheduled meeting rooms, monitored and managed meeting room, distributed weekly meeting notifications and forms.
- Mentor CS[U] Computer Science Mentorship Program: Provided weekly mentoring to younger student to provide support for success in Computer Science.