

# LIZA JIVNANI

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## EDUCATION

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**Bachelor of Science** | *Computer Science* | *Minor in psychology*

Jan 2021 – May 2025

University of South Florida (USF), Tampa, FL

GPA: 3.83

## PUBLICATIONS

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1. **L. Jivnani**, Fallon Goodman, Jon Rottenberg, and Shaun Canavan. Predicting Loneliness from Subject Self Report, Affective Computing, and Intelligent Interaction main Conference (ACII), 2023.
2. **L. Jivnani**, D. Smith, C. Deal, M. Gillespie, M. Owens, J. Licato, and S. Canavan. Exploring Decision-making Under Stressful Situations, IEEE Transactions on Affective Computing, Under Review (Submitted).
3. S. Aathreya, **L. Jivnani**, S. Srivastava, S. Hinduja, and S. Canavan. Task-based Classification of Reflective Thinking using a Mixture of Classifiers, Affective Computing, and Intelligent Interaction Workshops, 2021. (**Received Best Paper Award**).
4. M. Chaudhary, S. Aathreya, Y. Peng, H. Wang, J. Brabazon, R. Harris, **L. Jivnani**, L. Mondesir, N. Wai, L. Anthony, S. Canavan, J. Ruiz, and T. Neal. Toward Understanding Children's Use and Understanding of User Authentication Systems: Work-in-Progress, USENIX Symposium on Usable Privacy and Security (SOUPS), 2022
5. S. Hinduja, M. Bilalpur, **L. Jivnani**, and S. Canavan. Multimodal Temporal Modeling of Emotion using Physiological Signals. (Arxiv)
6. S. Hinduja, V. Kumar, **L. Jivnani**, and S. Canavan. Random Forest Regression for Continuous Affect using Facial Action Units. (Arxiv)

## RESEARCH EXPERIENCE

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**Research Assistant**

May 2021 – Present

Computer Vision & Affective Computing lab at USF

Tampa, FL

### 1. Decision-Making in Context (Ongoing):

- US Army funded project that explores human-AI cooperation in high-stress settings using multimodal data (audio, video, EEG, and physiological). Involves interdisciplinary collaboration across various universities.
- Trained person-dependent and & person-independent ML and deep learning models on EEG data to predict the next move of the subject in an Iowa gambling task.

### 2. Autism Detection in Children

- Predict ASD in children, a developmental brain difference. Shifting diagnosis from 4 years to 18-36 months to enhance early intervention and treatment efficacy.
- Conducted exploratory data analysis on videos of children with ASD interacting with a clinician. Performed image segmentation, feature extraction and data augmentation. Implemented an ensemble of deep learned and handcrafted features using Pytorch

### 3. Continuous Authentication and Group Emotion Recognition, NSF Award

- Design and evaluate user-centric age-aware Continuous Authentication models for computer workstations, mobile devices, and wearables using video and physiological data.
- Created Java-based applications for desktop & mobile platforms to facilitate data collection resulting in a 60% acceleration and enhancement in the data collection process

## TEACHING EXPERIENCE

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### Teaching Assistant

University of South Florida

Fall 2021 – Present

Tampa, FL

- Courses taught: Calculus 2, Intro to Programming, Program Design.
- Supported classes of 120 to 300 students.
- Developed walkthrough videos to simplify complex concepts.
- Organized weekly discussions and twice weekly office hours to promote collaborative learning.
- Graded exams and assignments, providing constructive feedback to support student improvement.

### AI curriculum Designer

Code/Art: Inspiring k-12 girls to code

Fall 2022 – August 2022

Miami, FL

- Designed "The Talkative Me," a voice-controlled AI agent for exploring self and alter egos, as part of an introductory AI lesson.
- Directed the "Teach the Teachers" program, delivering AI lessons to local middle school educators to help them introduce AI concepts in their classrooms.
- Supported the Development of a "Code Yourself" lesson using JavaScript for creating self-portraits.
- Organized a product design competition to inspire young women to view coding as a tool for self-expression and creativity through interactive projects.

## HONORS AND AWARDS

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1. Honorable mention, **Outstanding Undergraduate Researcher Award 2024** by Computing Research Association (CRA). This award recognizes select undergraduate students across North America who show outstanding potential in an area of computing research.
2. **Best Paper Award**, Affective Computing and Intelligent Interaction (ACII) Workshops, 2021
3. Presented at ACII 2023, main conference, held at **MIT Media Lab**
4. **Dean's List** 5 semesters. Awarded to top 10% of USF students for excellence in academics
5. Finalist, **Florida Blue** Health Innovation Challenge. Selected among 12 students across all the universities in Florida.
6. 1st rank, **Brain drone racing competition**. Competed with 60 USF students to control a BCI-based system to fly drones

## COMMUNITY SERVICE

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### Co-Founder

Kadoka Academy | KadokAcademy.com

May 2023 – Present

St Petersburg, FL

- A non-profit school catering to home-school teenagers aimed to teach valuable life skills that are often overlooked in a traditional K-12 curriculum.
- Most important skills in life are not taught in a traditional classroom. Kadoka Academy aims to address this gap by learning from the lived experiences of community members, ranging from scientists, entrepreneurs, artists, physicians, philosophers, teachers, and elderly.
- At Kadoka we embrace an unstructured approach to learning and explore questions like, 'what's more important: who do you know or what do you know', 'how do I get rich without being lucky', 'how to have meaningful relationships', and 'how to have difficult conversations'. At Kadoka, we nurture intellectual curiosity and empower our students to drive a positive impact in communities and beyond.
- My contributions include shaping the school's vision, designing the curriculum, organizing the weekend gatherings, conducting weekend workshops on topics like 'how to lie with statistics' and orchestrating a unique camaraderie of guest speakers.

## **Tech and Expo Chair**

February 2021 – December 2022

Girls who code | University of South Florida (USF)

Tampa, FL

- Developed and implemented tech workshops and coding challenges to increase women engagement in STEM.
- Led the organization and execution of the annual Girls who code Expo at USF engineering expo.
- Collaborated with a diverse student body and faculty members to sponsorships and partnerships, resulting in a 40% increase in funding.

## **Senator**

May 2023 – Present

Student Government | University of South Florida (USF)

Tampa, FL

- Despite knowing only 3 people at my university, I won the senate election by utilizing a selenium based python script to have personalized interactions with 100 USF students a day.
- Advocated for diverse student interests by actively participating in the Policy and Relations Committee, contributing to the development and revision of key policies affecting the student community.
- Facilitated communication between students and university administration, organizing forums and meetings to ensure student voices were heard and considered in decision-making processes.

## **Teaching Volunteer**

May 2023 – Present

Robinhood Army | RobinhoodArmy.com

Surat, India

- Served the underprivileged girls from orphanages, deaf & mute schools & remote slums by providing them with computer literacy. Taught them how to utilize basic technology to learn and grow.
- Advocated for the importance of computer literacy for K-12 girls from low-income families, as my parents believed it was a 'waste of time' for their daughters to learn how to use computers

## **Software and Networking Instructor**

Jan 2020 – August 2020

Institute of Advanced Network Technology (IANT) | iantindia.com

Surat, India

- At the age of 19, I taught a diverse group of students aged 20 to 35
- Instructed students in several programming languages, including Python, C++, Java, and SQL, as well as foundational scripting languages and networking fundamentals.
- Facilitated the implementation of various real-world coding projects with students, such as e-commerce applications, automation tools, and more.

## **AI PROJECTS**

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### **1. Purchasing Behavior of Online Shoppers**

Trained Random Forest-based models to predict online purchase behavior using various user engagement metrics like webpage duration and visit. Achieved 95% accuracy.

### **2. Traffic Signs Recognition**

Fine-tuned a CNN (Convolutional Neural Network) utilizing TensorFlow and OpenCV to classify a diverse set of traffic signs from the GSTRB (German Traffic Sign Recognition Benchmark, which contains thousands of images of 43 different kinds of road signs.). Achieved an accuracy of 95%

### **3. Predicting the Inheritance of GJB2 Gene**

Utilized Numpy to evaluate the Bayesian probabilities to analyze gene copy distribution to predict the GJB2 gene's behavior, achieving 90% accuracy in predicting its inheritance.

### **4. Nim Game**

Utilized Q Learning Algorithm to implement reinforcement learning based agent to play the Nim game. Achieved a win rate of 85% against human opponents.

### **5. Sudoku with AI**

Utilized backtracking algorithm to implement a sudoku solver.