LIZA JIVNANI

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I enjoy utilizing my sensitivity to emotions, natural curiosity and divergent thinking to drive my research in affective computing.

EDUCATION

Bachelor of Science | ***Computer Science*** Jan 2021 – Dec 2024
University of South Florida, Tampa, FL GPA: 3.77

TECHNICAL SKILLS

Data Science Libraries: : Keras, Tensorflow, PyTorch, Sklearn, NLTK, Pandas, Numpy, Matplotlib
Computer Vision: OpenCV, OpenFace, OpenPose, Convolutional Neural Networks (CNN), Random Forests
Deep learning methods: Transformers, Neural networks, XGBoost
Programming Languages: Python, Java, C++, SQL, MATLAB

PUBLICATIONS

1. **L. Jivnani**, Fallon Goodman, Jon Rottenberg, and Shaun Canavan. Predicting Loneliness from Subject Self Report, Affective Computing, and Intelligent Interaction main Conference, 2023.

2. 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

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**)

EXPERIENCE

Research Assistant | **Computer Vision & Affective Computing lab** May 2021 – Present
University of South Florida Tampa, FL

1. Decision-Making in Context (Ongoing):

- 5-year Army-funded project that explores human-AI cooperation in high-stress settings using diverse modalities (audio, video, EEG, and physiological). Involves collaboration across various research labs
- Trained person-dependent and & person-independent ML models on EEG data with 4 classifiers (Random Forest, Support Vector Machine, K-nearest neighbors, Logistic Regression), achieving up to 70% accuracy.

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.
- Utilized computer vision libraries like OpenCV to process and analyze video datasets, enhancing efficiency by up to 30% through frame optimization and content extraction.

3. Continuous Authentication and Group Emotion Recognition, **NSF REU**

- 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 streamline data collection resulting in a 300% acceleration and enhancement in the data collection process.

Co-Founder | **Kadoka Academy** May 2023 – Present
www.KadokAcademy.com St Petersburg, FL

Bridging the gap between school and real world

- A nonprofit geared towards delivering the skillsets that are often overlooked by the traditional K-12 system
- "A gathering place" for high schoolers to have conversations that matter and a unique forum discuss all those things we wish we learned when we were in school
- Launched our first cohort with 5 students on September 16, 2023

AI curriculum Designer | **Code/Art** May 2022 – August 2022
Inspiring K-12 girls to code Miami, FL

The Talkative Me, (Natural Language Processing):

- Utilized NLTK to train an interactive AI agent with voice control, for an Intro to AI with Art session.
- Implemented a mood-setting functionality utilizing continuous learning (CL) techniques
- Implemented several other functionalities like Telling a joke, interacting with the user about their day, saying goodbye in 40+ ways, etc.

Tech and Expo chair | **Girls who code** Feb 2021 – May 2021
University of South Florida Tampa, FL

Increase STEM engagement

- Organize Weekly Workshops for teaching Python and create projects to increase engagement in STEM
- Developed a TIC TAC TOE with AI game for ENGINEERING EXPO 2021.

Software and Networking Instructor | **IANT** Jan 2020 – Aug 2020
Institute of Advanced Networking Technologies Surat, India

Enhancing computer literacy

- Taught several programming languages, scripting languagesand fundamentals of networking
- Worked on several real-world projects in Python and Java with my students like developing e-commerce apps, automation apps etc

Teaching Volunteer | **Robinhood Army** May 2019 – August 2020
www.robinhoodarmy.com Surat, India

Free access to computer education

- Delivered free of cost computer education to the underprivileged girls from orphanages, deaf & mute schools & the remote slums of India

Honors and Awards

Presented at ACII 23 | **MIT Media lab**
Affective Computing, and Intelligent Interaction main conference, 2023

Dean's List
3 consecutive semesters | Awarded to top 10% of USF students for excellence in academics

Best paper award
Affective Computing, and Intelligent Interaction Workshops, 2021

Finalist
Florida Blue Health Innovation Challenge | among 12 selected students across all the universities in Florida

Computing Partners Scholarship
Merit-based scholarship that requires a nomination from the engineering faculty board of USF

AI PROJECTS

1. **Purchasing Behavior of Online Shoppers**
Trained Random Forest-based models to predict to predict online purchase behavior using various user engagement metrics like webpage duration and visit. Achieved upto 85% 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.

6. **Six Degrees of Kevin Bacon game**
Implemented the Breadth-First Search algorithm to train an AI agent to predict the shortest degree of separation between selected actors, achieving an accuracy of 95% on an IMDb dataset of 1000 actor pairs.