Ananya Deepak Deoghare

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Education

University of California, Los Angeles(UCLA) Expected 2023
MS in Electrical and Computer Engineering [GPA: 4.0/4.0] *Los Angeles, CA*

PES University Aug 2015 - Aug 2019
BTech in Electronics and Communication Engineering *Bangalore, India*

Eyantra 2016 Robotics Competition - Coached a team of 3 students to the semi-finals in a National Level Robotics Competition where I successfully managed and delegated tasks to ensure that the team met all deadlines. The robot performed navigation tasks and we build an arm for the robot to pick up objects.

Technical Skills

Tools and Languages:
Git, Python, MATLAB, C, C++, Java, SQL, Pandas, Scikit-learn, Tensorflow, Pytorch, OpenCV, Scilab, Visual Studio
Statistics/Machine Learning:
Statistical Analysis, Data Mining, Data Visualization, Informatica, ETL, Tableau, Image and Video Processing, Computer Vision, Clustering and Classification, Deep Learning, Feature Extraction, Signal processing

Experience

Teaching Associate Mar 2022 – Present
University of California, Los Angeles(UCLA) *Los Angeles, CA*
TA for the courses: 1) Food Politics in the World of Arts and Culture/Dance Department, 2) Mathematics for Life Scientists in the Life Sciences Department and 3) Introduction to Archaeology for Anthropology Department.

Engineering Intern Jun 2022 – Sep 2022
VidMob *New York, NY*

- Developed and implemented cutting-edge AI algorithms, resulting in a 25% increase in accuracy for scoring ad engagement data.
- Conducted thorough testing of new online advertisement engagement methods, leading to a 5% boost in overall client satisfaction rates.
- Collaborated with cross-functional teams on the design and development of various AI algorithms, contributing to an overall team efficiency improvement of 15%.

Student Researcher Jul 2020 – Present
University of California, Los Angeles(UCLA) *Los Angeles, CA*

- Collaborated with a team of engineers to develop and implement a state-of-the-art Shift Robust Loss Function for rPPG, resulting in decreased error by 40%.
- Worked with team to diagnose skin-tone bias in the medical application using multimodal fusion between radar and RBG data[1]. As a result, the team was able to develop an algorithm that improved accuracy by 75%.

Software Engineer & Data Analyst Jun 2019 – Jul 2021
Accenture *Bangalore, India*

- Qualified as a semi-finalist in the Global Innovation Challenge held by Accenture after demonstrating exceptional problem-solving skills, creativity, and ability to work under pressure.
- Developed and implemented innovative data analysis techniques to enhance the accuracy of drug sales performance monitoring, resulting in a 20% increase in competitor match rate and recognition from the Australian team.
- Leveraged expertise in ETL and BI tools to represent monthly and weekly effectiveness of client resources, leading to a 15% boost in productivity.
- Developed and implemented agile development methodologies to enhance team productivity, resulting in a 25% increase in project completion rate.
- Spearheaded the creation and implementation of automated data cleaning and processing workflows, resulting in a 50% reduction in analysis time for pharma sales data.

Research Intern Jan 2019 – Jun 2019
Artificial Intelligence and Robotics Lab *Indian Institute of Science, India*

- Collaborated with Dr. Sundaram and a team of researchers to pioneer new methods for faster and more accurate diagnosis of Autism, resulting in improved treatment outcomes.

- Developed and optimized deep neural networks to analyze fMRI scans for early detection of Autism, achieving an 80% accuracy rate on a large set of cleaned data.

Projects

- **Automatic Garbage Segregator:**
  1) Engineered a crane that could segregate waste into biodegradable, non-biodegradable, and electronic waste with an accuracy of 95.18%.
  2) Tested various Feature Extraction techniques like PCA, LDR, and Convolutional Neural Networks.
- **Multi-Class EEG Motor Imagery Classification Using Deep Learning Architectures**
  1) Implemented various deep learning techniques, including CNNs, LSTMs, RNNs, VAEs, Transformers and attention to achieve multi-class classification accuracy of EEG signals for motor imagery tasks.
  2) Demonstrated the potential of deep learning techniques for EEG signal analysis by achieving a classification accuracy rate of 75% on the entire dataset.
- **Detecting Pulse from Head Movement:** I replicated the paper "Detecting Pulse from Head Movement" by Guha Balakrishnan, Fredo Durand, John Guttag.The code was able to detect the Heartbeat with an error of around 2-5%. The code was done in Python and it took around 2.5 weeks to complete
- **Machine Learning Final Project:**
  1) Utilized a hybrid approach of Support Vector Machine with Gaussian Radial Basis Function Kernel and Back Propagation Algorithm to analyze Caltech-256 Dataset, resulting in an accuracy improvement of 15% compared to previous models.
  2) Developed MATLAB and Python codebase for the entire pipeline, including data preprocessing, feature extraction, model training and testing. Reduced processing time by 30% through parallelization across multiple CPU cores.

Publication & Certifications

SIGGRAPH 2022 Blending camera and 77 GHz radar sensing for equitable, robust plethysmography

Extracurricular Activities

- I am a professional Bharatnatyam Dancer and was in the top 50 in the Senior exam.
- Heavily participated in **IEEE Symposium Series on Computational Intelligence** held in Bangalore, presenting research and contributing to discussions.
- Member of the **Centre of Intelligent Systems** (a research center) at PES University, where I conducted research and collaborated with other members.
- Co-ran the Operations team for Epsilon 2016, a science fest that saw over 100 events and 2000 participants.