SAYAK GHORAI

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OBJECTIVE

To apply my skills in AI, Machine Learning, and systems engineering to develop innovative solutions and contribute to impactful projects in a dynamic and challenging environment.

EDUCATION

NIIT University, Neemrana   *Aug 2021 - Current*

Bachelor of Technology in Computer Science and Engineering
Cumulative GPA: *9.43*
Relevant Coursework: Specialization in Artificial Intelligence

TECHNICAL SKILLS

- **Strong Areas:** Machine Learning, Deep Learning, Artificial Intelligence, Digital Image Processing, Computer Vision
- **Programming Languages:** Python, JavaScript, Java, C/C++ (Arduino)
- **Libraries/Frameworks:** TensorFlow, Keras, PyTorch, OpenCV, React.js, Node.js, Git
- **Database:** MongoDB, MySQL
- **Platforms:** Render, Vercel, Netlify, Kaggle, GitHub
- **Tools:** Labelbox, VS Code, Intellij, Google Collab, Asana, Trello, Google Analytics, Final Cut Pro, GarageBand

PROJECTS & RESEARCH EXPERIENCES

R&D on CNN based Human Face Emotion Recognition   *TensorFlow, Pandas, Scikit-learn, CNN*

CNN based Classification model to recognise human face emotions
- Explored Residual and Parallel connection blocks, different optimisation techniques and loss functions
- Achieved 63% accuracy on FER2013 and 68% accuracy on AffectNet dataset, using built from scratch model
- **Google Docs:** *Human Face Emotion Detection using Face Images*

Human Activity Recognition using Wi-Fi Channel State Information   *WiFi-CSI, TensorFlow, Keras, CNN, LSTM*

A project focuses on recognising human activity using Wi-Fi channel state information
- Utilized pre-existing code for standard train-test splitting, designed and tuned the model architecture and hyperparameters
- Pushed the accuracy to 95% with good precision and recall, explored architectures like LSTM, learned fine tuning techniques
- **GitHub:** *sayakghorai34/HAR-using-CSI.git*
- **Kaggle Notebook:** *sayakghorai34/csi-har-notebook*

Implementation of DCGAN »   *PyTorch, JAX.Numpy, Matplotlib, DCGAN*

Implement from the Paper "*Unsupervised Representation Learning with Deep Convolutional Generative Adversarial Networks*"
- Implemented using PyTorch to understand PyTorch framework and GAN architectures
- First Implemented on MNIST dataset, later implemented on CelebA dataset
- **Kaggle 1:** *https://www.kaggle.com/code/sayakghorai34/dcgan-mnist*
- **Kaggle 2:** *https://www.kaggle.com/code/sayakghorai34/dcgan-rgb*

CV Parser Using NLP   *NLTK, SpaCy, NLP*

NLP based simple CV parser
- Developed an NLP-based simple CV parser using Regular Expressions, NLTK, and SpaCy to extract basic details.
- Enhanced Named Entity Recognition accuracy by enriching the word base, resolving issues to a significant extent.
- **GitHub:** *sayakghorai34/NLP_CV_Parser.git*

INTERNSHIP EXPERIENCES

Cats In Lab Coats Technologies (Startup)   *Sep 2022 - Apr 2024*
System Engineering and General Assistance Intern   NIIT University

- Acquired practical experience in transfer learning and working with single-shot detectors like YOLO and SSD MobileNet.
- Contributed to assembling UAVs and Rover models for agriculture and defense purpose
- Experienced in remote UAV piloting and ground controlling during medium/large size experimental drone operations.

Center of Excellence in Education Technology   *Aug - Nov 2023 & Jan - May 2024*
Technology & Media Desk Teaching Assistant   NIIT University

- Helped to facilitate 150+ academic projects including 40+ industry linked projects
- Developed automations using APIs, and Python resulting into efficient project execution
- Organized a workshop on using project management tools like Asana, successfully attracting over 250 participants
- Created comprehensive documentation for project tools, detailing user instructions, potential issues, and solutions

CERTIFICATES

PCAP: Programming Essentials in Python » *view certificate*   *7Apr, 2022*