Rudrax Dave

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EDUCATION

University of Southern California, Viterbi School of Engineering **Los Angeles, CA**
Master of Science in Electrical and Computer Engineering (Specialization in Machine Learning & Data Science) Aug 2021-Present
Relevant Coursework: Machine Learning, Deep Learning, Probability & Stats., Linear Algebra, DSP, Algorithm Principles **GPA:4/4**

Gujarat Technological University (GTU)- BVM Engineering College **Anand, Gujarat, INDIA**
Bachelor of Technology in Electronics and Communication Engineering Aug 2017-May 2021
Relevant Coursework: Antenna Design & Analysis, Wireless Comm., RF & Microwave Engineering, C, C++, Python, Embedded Systems, Calculus, Geo-informatics, Digital Logic Design, Microprocessors, & Microcontrollers **GPA:8.94/10**

SKILLS & CERTIFICATIONS

Languages: Python, C++, C, JAVA, Android (Java), HTML, R(Finance), RED-HAT Linux, SQL, Data Science & Analytics, ML-DL Algorithms
Tools: MATLAB, Android Studio, IBM SPSS, Power BI, GIT, Colab, Jupyter, Spyder, Visual Studio Code, PyCharm, CST Studio, MS Visual Studio, Proteus, IBM Watson, DialogFlow, Adobe Illustrator, Adobe Photoshop, Firebase, Unity- Blender(Beginner).
Frameworks & Libraries: Flask, Scipy, GDAL, Pytorch, Shapely, Numpy, RasterIO, TensorFlow, Keras, Pandas, Sklearn, Matplotlib
Certifications: Business Intelligence & Data Science using Power BI (UDEMY), Django & Python (Edunoix), Internet of Things (NPTEL - IIT Kharagpur), Adobe Skills in your Classroom (ADOBE), RS-GIS-GNSS-Digital Image Analysis (ISRO- IIRS)

EXPERIENCE

USC Information Technology Services (ITS) – University of Southern California Los Angeles, California
Technical Assistant - Part-time Sep 2021- Present

- Serving as immediate support - maintaining audio-video support for classes, auditoria, labs, and libraries.
- Responsible for improving classroom experience and upgrading technology for central IT services that support USC's schools, hospitals, research centers, and administrative units.
- Construct, install, and test customized configurations based on various platforms and operating systems.

Bhaskaracharya National Institute for Space Applications and Geo-informatics (BISAG-N)- Govt. of INDIA Gandhinagar, Gujarat
Research Intern – Machine Learning, Deep Learning, GIS Jan 2021-Jun 2021

- Performed Building and Road Extraction for Urban & Rural Development and Annotations of Imagery using ML & DL Algorithms
- Formulated on rapid developments in urban areas as well as rural areas, followed and strategies of directing those developments. Automatic object extraction approaches for largescale topographic mapping from images, determining changes in topography and revising existing map data.
- Analyzed for mapping from high resolution imagery or GIS database construction and its update, automatic object-based image analysis, also animated change so users came to know how urbanization occurs or growth happens over a decade.

GRE Electronics Pvt. Ltd Ahmedabad, Gujarat
Project Intern - Title: SOLAR Innovations for Everyday Life Jun 2020-Jul 2020

- Assessed under Experts for Research Project about "SOLAR Innovations for Everyday Life", Worked with various manufacturing process for LED Devices and other Electronics Products.
- Devised effects of SOLAR Innovations by Government and Companies and how manufactured, maintained, and improved for Large-Scale Output and implementation of new devices for improvisation.

Hindustan Coca-Cola Beverages Pvt. Ltd Ahmedabad, Gujarat
Summer Intern- Task: Industrial Automation- Software Analysis and Configuration May 2019-Jun 2019

- Drove and Molded Software and various PLC Based Systems UTILIZED in almost- fully automated plant to digitally configure errors and represented Graphical and Tabular formats, implemented framework to Manufacturing Team resulted in cost savings over approx. $10,000 annually to multinational company.

LEADERSHIP AND INVOLVEMENT

IEEE- Institute of Electrical and Electronics Engineers – Student Branch BVM Engineering College
Chairperson – NPSS Chapter Jan 2020-Mar 2021

- Planned, managed, organized and presented international and national technical symposia and quality educational events with 150+ students team consisting multiple engineering and managerial skills; developed a strategic plan and oversaw execution; negotiated with top-level management of IEEE to arrange for financial support of events; arranged for speakers, and directed an International Conference.

Content Creator & Handler - Channel: IEEE BVM SB, YouTube Mar 2020-Aug 2021

- Developed a digital learning environment for enthusiasts, from novice to experts, on varied unique topics of Science & Technology, Engineering, Space, Game Development, etc. to audience of more than 38K views and 1.4K+ Subscribers

ACADEMIC PROJECTS

Multi-Layer Perceptron for CIFAR-10 Dataset(Also Implemented on FashionMnist DataSets, etc.) Feb 2022-Mar 2022

- Utilized two hidden layers and ReLU activations for 256 nodes & 128 nodes in the 1st & 2nd hidden layers, an L2 regularizer with coefficient $\lambda = 0.0001$: tooled by Pytorch, Colab GPU, Neural Networks, dataset consisting of 60000 32 × 32 color images in 10 classes, and predicted which had individually accurate learning-> 100 epochs of Batch Size 20 each got us accuracy of 86% total.

Building and Road Extraction for Urban and Rural Development and Annotations of Imagery Jan 2021-Jun 2021

- Utilizing Open-Source Datasets from Google Earth Engine & NASA USGS (Sentinel, Landsat-8) of 2 certain timestamps, equalizing tiff files by Histogram Eq. Method, Clustering data by PCA + K-means Methodology, trained and segmented Data by Deep Learning Algorithms with U-NET Architecture, computed results by confusion matrix and attaining accuracy 89 percentage.

LOST N' FOUND Android Application Aug 2019-Jan 2020

- Solved problem of Lost or Recovered items with features such as image uploads, image recognition, and smart matching with technologies like Android Studio, Google Firebase- Storage, Authentication, Realtime Database and Google Analytics
- Built an interface for mobile application will let people report when found or lost something at a specific concerned location allowing users to capture and upload files into system cloud and saved in database, can be automatically matched to images in database- and shown to users in recovery section of app.

Sales Forecasting Using Machine Learning Algorithms Jan 2019-May 2019

- Achieved Smart Sales Forecasting by an EXTREME GRADIENT BOOST-based Model using Machine Learning- by forecasting the risk or demand of the product on the basis of the previous data.
- Compared with Linear Regression, Lasso and Ridge Regression, Random Forest algorithm performance on store sales dataset & proved the algorithm with the best performance.

AWARDS & HONORS

Best Leader & Highest GPA Awards(2018-19-20-21), Research-Innovator Award(2020),Tuition Fee Waiver & MYSY(Scholarship-$8.5K)