










# ALLENA VENKATA SAI ABHISHEK

## Work Experience

- Blaize Inc, Hyderabad, India** *Research & Development Intern* **Sept'21-Mar'22**
  - Built an efficient and low computational **Image Augmentation Python Library API** for Blaize's code-free AI software platform for full **End-to-End Edge AI life cycle** called AI Studio using Flask-restful. **Unit tested** the API vigorously and smoothly **Integrated the API** to the AI Studio.
  - Developed a fast and efficient **Gesture Recognition model** using various **Deep learning models** like **LSTM, GRU, and Transfer learning** by video capturing with **30 fps** that recognizes **5 different gestures** that helps users control the laptop without mouse or keyboard usage.
  - Dataset format conversions to **COCO** format and **metadata** generation. [\[Certificate\]](#)
- Klynveld Peat Marwick Goerdeler (KPMG), Bangalore, India** *AI Engineer Intern* **Jun'20 - Jul'20**
  - Analysed **customer-level data** of a leading telecom firm and built precision predictive models to **identify** the **high risk of churning customers** and the **critical indicators of churns**.
  - Built a **fast API app** with an efficient multiclass **melanoma detection** model using a custom **CNN** with an accuracy of **91.75%**. It can evaluate images and **alert dermatologists** about the melanoma's presence, **reducing** much **manual effort** needed in **diagnosis**. [\[Certificate\]](#)
- Aam Aadmi Party (AAP), New Delhi, India** *Data Science Intern* **Aug'19 - Oct'19**
  - As a member of the **Data Analytics Cell** of the national political party, efficiently **scraped** from web and **extracted data** from social media platforms through **APIs** and stored the data with its **polarities in CSV files** and appended to the dataset.
  - Improved the accuracy** of various models used for predictions of the **election** by **8%** based on the dataset created. [\[Certificate\]](#)
- Hewlett Packard Enterprise (HPE), Hyderabad, India** *Deep Learning Intern* **Jun'19 - Jul'19**
  - Deployed an **efficient ML Pipeline** for image classification while making the insights interpretable for effective decision making with Explainable AI.
  - Efficiently **improved the accuracy** of the object detection model by **10%** by designing a custom-built neural network model over **CNN & ResNet18** model for multiple datasets for the **AI studio** platform. [\[Certificate\]](#)
- Visakhapatnam Steel Plant (VSP), Visakhapatnam, India** *Machine Learning Intern* **May'19 - Jun'19**
  - Efficiently **improved the future profit margins** of steel production of VSP using the 2-year steel production and revenue data using **ML algorithms** with a **deployment of a static website** to display the findings. [\[Certificate\]](#)
- Taj Animation XP, Vizianagaram, India** *Full stack Web Development & Computer Vision Intern* **May'18 - Jul'18**
  - Successfully created an efficient **Static website** that was a **clone of Facebook** & Efficiently
  - Developed **object detection** deep learning based model using **YOLO v2**. [\[Certificate\]](#)
- NICO Info Systems Inc, Hyderabad, India** *Machine Learning Intern* **May'17 - Jul'17**
  - Successfully developed a **Credit card fraud Detection application** by using various Clustering & Machine Learning concepts. [\[Certificate\]](#)

## Education

- M.S., LJMU, Liverpool, UK** **CGPA: 4.0/4.0** **Feb'22 - Sept'23**
  - Major in **ML & AI Spl. Adv. Computer Vision & Minor in Adv. NLP**
  - Coursework includes hands on experience in Exploratory Data Analysis, Deep Learning, Natural Language Processing & Advance Computer Vision.
- Executive PG, IIIT Bangalore, India** **CGPA: 4.0/4.0** **Feb'22 - Feb'23**
  - Major in **ML & AI Spl. Deep Learning**
  - Coursework includes exploratory data analysis, data visualization, Hypothesis Testing, Machine Learning, Deep Learning [Degree Certificate]
- M.Tech, GITAM University, India** **CGPA: 9.45/10.0** **Jun'20 - Jun'22**
  - Major in **Data Science** [\[Mark Sheet\]](#)
  - All campuses **University Branch Topper & Dean's List Accreditation** [\[Degree Certificate\]](#)
  - Published research papers** in Scopus Indexed journals based on AI, Machine Learning & Deep learning - **IARET (most popular research paper of the publication [Most popular Paper Link])[Paper Link], IURAR [Paper Link], JETIR [Paper Link], IUREAM [Paper Link], IJERT [Paper Link], UCRT [Paper Link], IJIRT [Paper Link]**
- B.Tech, VIT University Vellore, India** **CGPA: 8.2** **Jul'16 - Jul'20**
  - Major in **Computer Science & Engineering (CSE)**. Coursework included Computer Vision, ML, python, Data visualization, IOT, Web Development & DBMS. [\[Degree Certificate\]](#)
  - Bronze** echelon prize in Hack4cause hackathon by **ICSET 2018** [\[Certificate\]](#)
- BGKV, Kolkata, India** (CBSE Stream) **Jul'11 - Jul'15**
  - Class 12: **85.6 %** [\[Mark Sheet\]](#), Class 10: **10.0/10.0** [\[Mark Sheet\]](#)
  - Merit Certificate** for securing **20<sup>th</sup> Zeal Rank & 540<sup>th</sup> International Rank** in 7th SOF-NSO in Feb 2015.
  - Recognized with the **Kulapati K.M. Munshi Award in Mathematics** on May 2013.

## Skills

(\*With attached links to my projects and articles on the underlined skills)

- Machine Learning Algorithms ( ML )**: End-to-end ML Pipeline Development, Active Learning, Supervised learning, Unsupervised learning, Semi-supervised learning, Reinforcement learning, [Classification](#), Binary Classification, Multiclass Classification, [Regression](#), [Class Imbalance](#), [Linear regression](#), [Simple linear regression](#), [Multiple linear regression](#), [Logistic Regression](#), [Regression analysis](#), [Lasso regression](#), [Ridge regression](#), [Polynomial regression](#), [K-nearest neighbors algorithm](#), [KNN \(K Nearest Neighbours\)](#), [K Nearest Neighbour \(Knn\)](#), [Clustering](#), [Cluster analysis](#), [Collaborative Filtering](#), [Hierarchical clustering](#), [k-means clustering](#), [DbSCAN Clustering](#), [Mean Shift Clustering](#), [Decision trees](#), [Decision-making](#), [Decision tree learning](#), [Bernoulli Naive Bayes](#), [Naive Bayes classifier](#), [Random forest](#), [Support Vector Machines \(SVM\)](#), [XGBoost](#), [Boosting](#), [AdaBoost](#), [Gradient boosting](#), [Confusion Matrix](#), [ROC](#), [AUC](#), [R squared](#), [RMS](#), [Recall rate](#), [Principal component analysis \( PCA \)](#), [Data Encoding](#), [One hot encoding](#), [F1 Score](#), [Precision](#), [PBDL](#), [OpenAI](#), [GenerativeAI](#), [chatGPT](#), [Automated Machine Learning \(AutoML\)](#)
- Deep Learning ( DL )**: [Transfer learning](#), [Neural models](#), [Convolutional Neural Networks \(CNN\)](#), [Recurrent neural network \(RNN\)](#), [Artificial neural networks \(ANN\)](#), [Neural Network \(NN\)](#), [Dimensionality Reduction](#), [VGG](#), [LeNet5](#), [Inception v1](#), [ResNet](#), [EfficientNet](#), [Encoder](#), [Decoder](#), [Long Short-term Memory \(LSTM\)](#), [GRU](#), [MLops](#), [MLflow](#), [Optimization](#), [Normalizing Flows](#), [Generative Models like GANs](#), [FC GAN](#), [DCGAN](#), [WGAN](#), [WGAN-GP](#), [Pix2Pix](#), [CycleGAN](#), [ProGAN](#), [SRGAN](#), [ESRGAN](#), [StyleGAN](#), [Backpropagation](#), [Semantic Segmentation](#), [Gradient descent](#), [Stochastic gradient descent](#), [Attention](#), [Activation Functions](#), [Fine Tuning](#), [Autoencoders](#), [Regularization](#), [Deep Learning Frameworks or Deep Learning Toolkits like Torch, PyTorch, TensorFlow, Keras, MXNet, Caffe, Theano](#)
- Computer Vision / Image Processing [Link]**: [state-of-the-art algorithms](#), [Image classification](#), [Image localization](#), [Image recognition](#), [Image Detection](#), [Image Analytics](#), [Image Captioning](#), [Image Segmentation](#), [Instance Segmentation](#), [Edge Detection](#), [Contour Detection](#), [Corner Detection](#), [Template matching](#), [Object tracking](#), [Moving averages](#), [Sliding Window](#), [Image & Video Understanding](#), [Manipulation](#) and [Synthesis](#), [Video Analytics](#), [Video Segmentation](#), [YOLO](#), [Single Shot Detector \(SSD\)](#), [Speeded-Up Robust Features \(SURF\)](#), [Scale-invariant feature transform algorithm \(SIFT\)](#), [Viola-Jones](#), [Mean-shift algorithm](#) for fast tracking of object, [feature-point extraction](#), [Histogram of Oriented Gradients \(HOG\)](#), [Region-based Fully Convolutional Network \(R-FCN\)](#), [R-CNN](#), [Mask R-CNN](#), [Fast R-CNN](#), [Faster R-CNN](#), [RetinaNet](#), [Blitznet](#), [Digital image processing in Remote Sensing](#), [Image restoration](#), [Image rectification](#), [Noise removal](#), [Image Enhancement](#), [Histogram Equalization](#), [Image transformation](#), [Image reconstruction](#),



Geographic Information System (GIS), Geospatial data, Vector data model, Raster data model, diffusion, Image matting, [Data Augmentation](#), Applied Mathematics, Geometry, OpenCL, Robotics, SLAM (Simultaneous Localization and Mapping), 3d mathematics, [Mean Average Precision \(mAP\)](#), Map based driving products, Architecture designing for map health monitors and data fusion with perception, cloud native service for on demand map content analysis, Gauss-Newton Optimization, SLAM, ICP, [Monte-Carlo localization](#), Bayesian Approaches, Hough Transform

- **Data Science:** Business Analytics, Business Intelligence, Business Analysis, Risk Analysis Data Mining, [Web Scraping](#), Web Crawling, Structured data, Unstructured data, Data Ingestion, Data Wrangling, Data Analysis, Data quality and validation, Data Analytics, Data Modelling, Relational modelling, dimensional modelling, ETL, Data frames, Feature Engineering, Panda Series, E-commerce Analytics, Marketing Analytics, Customer analytics, Google Analytics, manipulating/transforming data, model selection, model training, cross-validation, correlation, F-Test, T-Test, Chi square test, Deployment at scale, Data Preprocessing, Data Cleaning, Data wrangling, Data Warehousing, Exploratory Data Analysis (EDA), Pattern Recognition, Critical and Analytic Problem Solving, Text Analytics, Market basket analysis, Data Visualization, Linear Algebra, Calculus, Statistics, Statistical Analysis, statistical modelling such as predictive modeling, churn analysis, time series forecasting, Autoregressive integrated moving average (ARIMA), Mathematics, Hypothesis Testing, R, ggplot, Gaussian Models, Bayesian models, graph, KPIs, MS Excel, Dashboard, Probability Theory, Tableau, text analytics, Audio Analytics, Scatter Plot, Word Cloud, Heat Map, [Data Drift](#), Recommender Systems,
- **Natural Language Processing ( NLP )** ([Link](#)): Natural Language Understanding (NLU), Speech Recognition, [Transformers](#), HuggingFace, T5 transformers, GPT3, [Lexical Processing](#), BERT, Spacy, [Text Encoding](#), [Regular Expressions](#), Tokenization, [Stemming](#), [Lemmatization](#), [Bag of words](#), [TF-IDF](#), Word2Vec, Universal Sentence Encoder, Entity Extraction, Syntactic Processing, Chatbot Development
- **Cloud:** Familiarity with AWS services related to AI/ML, Amazon Web Services, Amazon EMR, AWS Lambda, SageMaker, IoT, Amazon DynamoDB, Amazon S3, Amazon EC2 Container Service, Green Grass etc. Data warehousing, [Microsoft Azure Synapse](#), MS Azure Data lake Gen, Azure Data Storage, Google Cloud Platform (GCP), Kubernetes, Workflow management engines or data-oriented workflow orchestration frameworks like Apache Airflow, Snowflake, Kubeflow, large scale cloud software programs like Docker, Gerrit, Bazel, Flatbuffers, gRPC Big data platforms like Apache Spark, Pyspark, Hadoop
- **Database:** [SQL](#), [MySQL](#), PostgreSQL, DBMS ( Database management systems ), Microsoft SQL Server Management Studio, T-SQL, Database Administration
- **Tools/Environments:** Code Editors like Visual Studio Code ( VS Code ), Google Colab, Jupyter Notebook, Distributed Systems, distributed computing, GPU, TPU
- **Research** ([Link](#)): Report Making, Scripting skills, Operations, Data Presentation Skills, Interpersonal Communication, Microsoft Office, Microsoft PowerPoint, Hands-on experience and project-based learning, Record of delivering large analytical solutions with business impact, Auditing, Applied Research, Effective Communicator, PoCs
- **Web Development:** API, API Integration, Rest API, CUDA, JSON, XAMPP, PHPmyadmin, Postman, HTML, HTML5, CSS, JavaScript, XML, Flask, Flask RESTful, GO, Golang, Rust, [ReactJS](#), [Next JS](#), [Typescript](#), Npm, Yarn, Node JS, Chatbots, Web designing, Web Content Writing, [Front end Web Development](#), CRUD application
- **Other:** Object-oriented programming concepts (OOPs) Data Structures and algorithms (DSA), Code Refactoring, OO language, [Python](#), C++, C, Qt, Boost, Algorithm Development, Open Source Projects, Django, Software Development Life Cycle ( SLDC ), debugging, YAML, continuous integration and delivery (CI/CD) pipelines, Customer Support, Technical Support, Technical Requirements, Software development environment, Troubleshooting, Code management, Version Control System, GIT, bash, [GitHub](#), Gitlab, Artificial Intelligence (AI), Agile Methodologies, Agile team environment, Test Automation Frameworks, A/B testing, Unit Testing, Control Software, Windows, Linux, Ubuntu, Tmux, Screen, Linux server, WSL, Atlassian, Ticketing Software, JIRA, [Invision](#), Demand Planning, Confluence, Quantitative Analytics, Canva, Filmora, tinyML, Explainable AI, SHAP, Conversational AI tools - Kore.ai, Responsible AI, High Performance Computing (HPC), Robotic Process Automation (RPA), UiPath, Python Libraries: Numpy, Pandas, Matplotlib, Seaborn, SciPy, Scikit-learn ( Sklearn ), Beautifulsoup, urllib, Selenium, Tweepy, [Albumentations](#), Augmentors, Imgaug, scikit-image, [Torchvision](#), Python Image Library ( PIL ), OpenCV, [Detectron2](#), ImageAI

## Projects

- **Detectron2 for critical software-based systems** - A FAIR software system that implements **advanced object detection algorithms**, by offering **speedy training & manipulation to derive insights** to address the issues companies face during the research to the production phase. ([Source Code](#))
- **Twitter sentimental analysis** - Successfully wrote a clean, well-crafted **python** code for a **Twitter sentimental analysis** model with **data manipulation**, data storage & visual effects. Learned to access tokens, API extraction & store data in a **CSV file**. ([Source Code](#))
- **Connect Life:** A Social media Website- Successfully wrote quality code at source to establish a **static** website that can **connect 2 VITians**, with the usage of HTML, CSS, and JavaScript with a **trained Chat-bot**. ([Source Code](#))
- **Face & Emotion Recognition using Python** - Successfully **improved efficiency by 30%** of face detection & Emotion recognition models using python. ([Source Code](#))
- **Hospital Management System** - Successfully fortified one end-to-end **relational database** for Hospital Management system. ([Source Code](#))
- **Lending Club Case Study for Loan Defaulters Prediction System** - Using the information about past loan applicants, solved a real-world risk analytics problem in Banking and Financial Domain business problem using Exploratory Data Science techniques with a data-driven decision for defaulters' prediction in Loan Lending club. ([Source Code](#))

## Leadership Experience

- **Nirvana – Technical Fest** *Technical Event Head*
  - Top **5%** of the IEEE student body club. **Promoted** through social media about the events of the annual technical fest - IEEE, GITAM University. Recruited & lead a team of **80** university students volunteering for Publicity & Marketing with blue box values. 
- **Riviera –Cultural Fest** *Marketing & Event Coordinator*
  - Top 4% of the student body club and recruited & managed a team of **120** university students volunteering for P&M [Publicity & Marketing]. Gained **invaluable experience** in *leadership, excellent problem-solving skills, team building, collaborative teamwork, effective communication, marketing, event workflows & risk management, efficient time for project management with cross-functional teams & exhibiting the ability to adapt to changes*. ([Certificate](#)) 

## Extra Co-Curricular

- **Achievements:**
  - **Kaggle 3X Expert** with Global Rank: **#144** of 320,880 (*Discussion Expert*), **#200** of 78,666 (*Datasets Expert*) and **#987** of 260,960 (*Notebooks Expert*)
  - **Leetcode Global Rank: #6600**
  - **M.Tech University Department Topper** (All campuses)
  - **300+ projects on GitHub**
  - **GAT 2020 AIR#1, Scholarship: Rs.1Lac**
  - **Google India Scholarship Recipient**
  - **VITEEE 2016 (VIT National Entrance Exam) AIR #101, Scholarship: Rs. 2 Lacs**
  - **NIIT Vizag Website Hackathon Winner**
  - **GFG University Rank #1 (LJMU, UK)**
  - **Elegant Writer on Medium, Analytical Vidyalaya, Quora & Towards Data Science Published 8+ research papers in Scopus Indexed Journals**
- **Certifications:** NIIT Python Course Certifications. ([Certificate](#)), DeepLearning.AI Certification ([Certificate](#)) & Coursera courses ([List-of-Certificates](#)) ([Certificate](#)).
- **Social Work Experience:** **ATK spiritual service society (NGO):** Teacher at NGO, Congregated funds for our annual charity by **25K INR** [2016], **30K INR** [2017], **25K INR** [2018] & **15K INR** [2019]. ([Certificate](#))
- **Hobbies:**
  - **Writing Blogs & Quotes** - Posted blogs on Quora - [[A. V. Sai Abhishek](#)] and I have **450K+ viewership** on it.
  - **Video Editing & Content creation** - I enjoy editing videos & uploading content on YouTube. My YouTube channel is - [[ALLENA VENKATA SAI ABHISHEK](#)] & run a few **motivational pages** on Instagram.
  - **Sports & Games** – Badminton, Football; *Indoor Games* – Chess & Carroms.
  - Enjoy listening to music
- **Languages Known:** Fluent in English, Hindi, Telugu, and Bengali

## Contact Information & Technical Profiles

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- **Technical Profiles:** [GitHub](#) | [Linkedln](#) | [Kaggle](#) | [Medium](#) | [Leetcode](#) | [GeekforGeeks](#) | [Twitter](#) | [Orcid id](#) | [Research Gate](#) | [Google Scholar](#)