

UJJWEL BALWAL

Software Development Engineer at LeanCloud Solutions

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📍 Chennai, Tamil Nadu, IN



EXPERIENCE

LeanCloud Solutions Pvt. Ltd.

SOFTWARE DEVELOPMENT ENGINEER

Chennai, India
June 2021 - Present

- > Design and implement scalable, object oriented code in Python 3.x
- > Deploy and maintain the codebase on AWS and Azure service offerings
- > Improved processing pipelines using Numpy, multithreading and local caching; resulting in upto 70% improvement in recommendation pipelines
- > Onboard and guide two new clients to get started with our service offerings
- > Interview potential internship candidates
- > Mentor and track college interns towards completing their projects

Caterpillar Inc.

COLLEGE INTERNSHIP

Chennai, India
Jan 2021 - June 2021

- > Designed and implemented new business requirements in [VisionLink 3D Productivity Manager](#) and rolled out the changes to hundreds of clients without service disruption
- > Implemented bug fixes and solved performance issues, resulting in lower map rendering time for customers
- > Documented code inherited from legacy projects, creating a reference point for Python migration
- > Migrated part of production code from .Net 2.1 to .Net Core 3.1, improving its security and shelf life

LeanCloud Solutions Pvt. Ltd.

SUMMER INTERNSHIP

Chennai, India
Apr 2020 - Jun 2020

- > Designed and implemented sanity checks for new Amazon AWS and MS Azure customers, resulting in reduction of time taken from a day to single click automated checks
- > Automated sanity checks and metric collection using Boto3 and AWS Lambda, resulting in periodic health checks for several services
- > Automated reporting of Lambda results using Jira python API, resulting in a robust near real time incidence reporting and tracking

Admatic Solutions

PART TIME INTERNSHIP

Chennai, India
Oct 2019 - Dec 2019

- > Created gesture recognition smart ball using GRT and ESP32
- > Designed computer vision applications for teaching aids
- > Implemented OpenAI-Gym based agent to play air-hockey

EDUCATION AND ACTIVITIES

SSN College of Engineering

BE COMPUTER SCIENCE AND ENGINEERING

Anna University,
Chennai, IN
2017 - 2021

- > 8.65/10 CGPA; First Class with Distinction
- > Vice President at Association of Computer Engineers; part of organizational committee for Tech Fests and Student Activities
- > Top ranker in Crayon AI Data Challenge hackathon of IIT-Madras
- > Actively volunteered in National Service Scheme, Youth Red Cross

Kendriya Vidyalaya No. 1, Udhampur

CBSE, COMPUTER SCIENCE

CBSE, JK, IN
2005 - 2017

- > Class XII - 90/100, Class X - 10/10 CGPA
- > School Pupil Leader
- > Senior Patrol Leader of Bharat Scouts and Guides
- > Cadet in National Cadet Corps

PUBLICATIONS

DEEP LEARNING BASED TB SEVERITY PREDICTION

CEUR WORKSHOP PROCEEDINGS | SEP 2020

[see paper](#)

Predicting the probability of the presence of tuberculosis, caverns and pleurisy in 3D CT scans of lungs

★ AWARDS AND ACHIEVEMENTS

Rank 08	ImageClef 2020 , Tuberculosis CT Report : Automated CT-scans report generation (65 research teams)	2020
Rank 42	JK-CET , State level engineering entrance exam (10,000 candidates)	2017
—	Scholarship , For Bachelors Degree in Computer Science, from All India Council of Technical Education, Govt. of India	2017 - 2021

📁 PROJECTS

ZEROS - MULTITHREADED KERNEL FROM SCRATCH

PERSONAL | 2021 (IN PROGRESS)

[zeroinverse/zerOS](#)

Trying to learn my way into creating a functional kernel with support for multitasking, FAT, Error and Exception handling. Currently in development and basic prototype with minimal features are running in Real Mode.

Assembly

VIRTUAL PERSONAL TRAINER

FINAL YEAR THESIS PROJECT | 2021

An AI ChatBot system using OpenPose and Dynamic Time Warping Algorithm, coded for specific exercises like Squat and Bicep Curl. It watches the user through webcam and gives specific feedback if the exercise is not being performed correctly.

OpenPose Python 3

VEHICLE IMAGE MASKING

CSE DEPT RESEARCH PROJECT | 2020-21

Lead a team of students from SSN College of Engineering to develop a Machine Learning Model capable of extracting a car from a natural or industrial environment. The model is built on U-Net Architecture and uses a highly augmented public dataset.

Keras C++ OpenCV Python 3

PORTABLE CROP GRADING SYSTEM

SSN RESEARCH DEPT FUNDED PROJECT | 2020-21

Developed a portable device that grades quality of rice grains based on cosmetic metrics devised by national standardization agencies

C Python OpenCV

FOREST FIRE DETECTION DRONE

SSN RESEARCH DEPT FUNDED PROJECT | 2019-20

Worked on the flight control and telemetry of a drone capable of sensing forest fire and notifying the nearest receiving station

OpenCV C Python ESP32 OpenPilot

NEURAL NETWORK VISUALIZER

MINI-PROJECT

[zeroinverse/neural-network-visualizer](#)

Coded a Neural Network Visualizer web application using Streamlit. The webapp visualizes the outputs of all the nodes of all the layers of the studied neural network (using Keras' functional API) for a given input image (from MNIST dataset)

Keras Streamlit Python 3

IMAGE DENOISING

MINI-PROJECT

[zeroinverse/image-denoising](#)

Trained a simple pipeline to remove noise from grainy images using Autoencoders

Keras Python 3

IMAGE UPSCALER

MINI-PROJECT

[zeroinverse/image-upscaler](#)

Created a training pipeline to upscale images using autoencoder. Trained and tested on car images; easily trainable on other datasets

Keras Python 3

SYNTHETIC IMAGE GENERATOR

MINI-PROJECT

[zeroinverse/synthetic-images-generator](#)

Generated MNSIT-Fashion dataset lookalike Images that don't exist in reality, using DCGANs

Keras Python 3

ADDITIONAL COURSES

Algorithm Design	PennX MOOC
Machine Learning	Stanford MOOC
Data Science Methodology	IBM MOOC
AI on the Edge	(Introductory) Intel MOOC
Spanish Level A1 Certification	InAWord Chennai

LANGUAGES

English	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Hindi	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Tamil	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Spanish	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>