

Field Training Report

Submitted to

**DR. BABASAHEB AMBEDKAR TECHNOLOGICAL UNIVERSITY,
LONERE**

In partial fulfillment of the requirements for the award of

Bachelor's degree in

Electronics & Telecommunication

By

Nandkumar Kadate

Under the guidance of

**Dr. Kalyanbrata Ghosh
Associate Professor
Department of ECE,
SITCOE**



**SHARAD INSTITUTE OF TECHNOLOGY,
COLLEGE OF ENGINEERING, YADRAV.**

2021-2022



**Shri. Shamrao Patil Yadravkar Educational and Charitable
Trusts'**

**SHARAD INSTITUTE OF TECHNOLOGY COLLEGE OF
ENGINEERING, YADRAV, ICHALKARANJI**

ACKNOWLEDGEMENT

I am very much thankful to **Bitwise Solutions Pvt Ltd** for giving the opportunity for Training program. I would also like to thank our Guide **Dr. Kalyanbrata Ghosh H.O.D Dr. Pravinkumar S. Patil** for suggesting and providing necessary help and guiding and giving precious time. I would like to thank our principal **Dr. S. A. Khot** for giving opportunity to present this report. I thank to them for their valuable and immense knowledge and timely help.

Place: Yadrav-Ichalkaranji

Date:

1) Nandkumar Kadate



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CERTIFICATE

This is to certify that **Nandkumar Kadate** has submitted his field training work done in **Bitwise Solutions Pvt Ltd**, in partial fulfillment of the Bachelor Degree in **Electronics & Telecommunication** to Dr. Babasaheb Ambedkar Technological University, Lonere, has been carried out under my guidance during the academic year 2021-2022. The matter presented in this report is his/her own work and conclusions drawn are entirely based on observation recorded during the work to the best of my knowledge and belief.

Submitted by:-

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Dr. Kalyanbrata Ghosh

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Electronics &
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Head,

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Introduction of Training

- I am Student of Electronics and Telecommunication Engineering Field. I had to complete the summer internship of 80 days or more under any company. It all started when I gave interview for the Bitwise Solutions Pvt Ltd, Pune for my summer internship and get a chance to be a part of organization. My internship started from 14 Feb 2022.
- My position is an employee in this company as Project Trainee. My internship started from 14 Feb 2022. Company has given training program with related specific courses.
- Internships are generally thought of to be reserved for college students looking to gain experience in a particular field. However, a wide array of people can benefit from Training Internships in order to receive real world experience and develop their skills.
- An objective for this position should emphasize the skills you already possess in the area and your interest in learning more.

Training Program

a. Industry Information

- Bitwise is a team of passionate people whose goal is to improve everyone's life through disruptive products. They build great products to solve your business problems. The products are designed for small to medium size companies willing to optimize their performance.
- The Bitwise global provides services to its clients like -
- Digital security
- Data lake on cloud for better Data Management
- Application development
- Customer churn prediction
- Platform for Healthcare and Finance
- E-Commerce integration with POS

b. Starting date and ending date of field training

- Starting date of field training is 14 Feb 2022
- Ending date of field training is 12 Aug 2022.

c. Detailed description of the operations/activities performed by the department I worked in.

- With data playing a pivotal role in enterprise processes and decision-making, it becomes crucial to map out analytical and strategic plans based on data and tailored to the organization's business vision.
- Bitwise Data Analytics & Strategy services create data-led value by enabling organizations to better understand and leverage the power of their data. We offer **Enterprise Data Platform Engineering** solutions, digressing from the conventional point solution-based approach and utilizing the path to building industrialized capabilities to leverage data. We enable enterprises to architect a data strategy blueprint tailored to the enterprise requirements and chart the roadmap to incrementally build on the outlined data capabilities.
- Our **Data Governance** services suite, on the other hand, takes a holistic approach in managing data throughout your enterprise by enabling well-articulated data quality, data security, and data management practices.
- Along with being governed properly, data also needs to be converted into valuable insights that can be wielded to drive profitable business activities. Bitwise **Business Intelligence** solutions empower organizations to transform raw data into meaningful information in order to fuel fruitful business actions.

d. Detailed description of the project assigned

- The name of the project where I started working and has been working is LOTR. In this project the technologies used are python, SQL, Google's Bigquery and some basic Unix commands.
- There are 4 parts of environments in this project where I have been working. They are DEV Environment, MQA Environment, CERT Environment and last but not the least is PROD Environment. I have been working from start of the internship in the DEV environment. The DEV simply means development.
- Also there is one section called as RALLY where my work, my user stories (on which user story I have to work), work documents , FRD document and description of work is mentioned.
- So the first task is to open rally with my account credentials then search my user story given to me read its data understand the project task given to me and start working on that specific task. So it is all about data so I have to download all required script files , YAMLS, and dag files for code changes for that specific task. So I have to download these files from PROD Environment and then start working on code changes for that files and scripts.
- After completion of code changes, I have to upload the code changed scripts and files to DEV Environment and after that I have to go to dags (Airflow) where the all flow of process is mentioned. I have to observe their that my code changes are working and it should be success to give further to QA team for further work on the same.

- And if after checking dag files if somehow its failing or showing some kind of error so we have to test that scripts and dag files by the help of bigquery and fix that as soon as possible and after fixing that I have to create a PR with that code changed scripts and files and after creating PR I have to give artifact and Code Changes document for the same.
- This topic suits my major in telematics, and also brought me to a very new and interesting area of using communication technologies in electricity network. Through the assignment, I did not only gain a lot of knowledge but more importantly, I also had a great chance to sharpen my skills in a professional working environment. Not less important than the communication technologies that I have learnt is the communication skills that I have been trained and practiced through giving presentations, discussing with the supervisors, experts in the field and other staffs within and outside the company.
- Throughout the internship, I have also learnt many things about the Pune culture whose benefits are far beyond what I could learn in a normal project. In short, I would like to thank my project manager Angella and Teammates, Internship Office for introducing me to this great opportunity in which I have developed myself both academically, professionally and socially.
- This is the process and flow of my work in this organization.

Work Samples

Execution sequence:

Assumption : Base tables are loaded

- (1) GUID
GUID → Super → Triggering master
- (2) EOD
EOD → DIF- EHT → Super → Triggering master
- (3) GSAP Log (US,AP ,CA and LA)
Base table → Super → Triggering master
- (4) Master table load
Transformed_layer master → consumption layer master

Base tables:

[LOTR Base Table](#)

[LOTR Base Table](#)

Target tables:

[LOTR Target Tables](#)


DAGs:

[LOTR DAGs](#)

Pools:

[LOTR Pool details](#)

- 1) In above picture this is the document where I can find links for various environmets and for specific also i.e Composer links, composer dags location, bucket locations, etc for every environment and also it has LOTR dags, EOD dags doc, etc for our work reference.

<div>  <div> DAGs Data Profiling Browse Admin Docs About </div> <div> composer-dev-v4 2022-06-22 09:54:13 UTC </div> </div>								
	+	DAG	Schedule	Owner	Recent Tasks	Last Run	DAG Runs	Links
	On	1099k_load	None	airflow		2022-01-07 21:12		
	On	1099k_propay_load	None	airflow		2022-02-11 17:16		
	On	ach_load	None	airflow		2022-06-20 17:01		
	On	active_ca_chargeback_file_generation	None	airflow		2022-06-22 07:41		
	On	active_ca_deposit_file_generation	None	airflow		2022-06-07 08:18		
	On	active_ca_statement_monthly_load	None	airflow		2022-06-16 12:37		
	On	active_ca_statement_report_generation	None	airflow				
	On	adhoc_ap_daily	None	airflow		2022-06-20 09:24		
	On	adhoc_ap_monthly	None	airflow		2022-06-21 06:53		
	On	adhoc_ca_daily	None	airflow		2022-05-24 14:45		
	On	adhoc_ca_monthly	None	airflow		2022-06-20 16:38		
	On	adhoc_indir_daily	None	airflow		2022-06-14 06:13		
	On	adhoc_indir_monthly	None	airflow		2022-06-14 06:13		
	On	adhoc_uk_daily	None	airflow		2022-06-15 20:32		
	On	adhoc_uk_monthly	None	airflow		2022-06-21 07:44		
	On	adhoc_us_daily	None	airflow		2022-06-15 20:28		

2) There are also same locations for different environments such as cert, prod, qa, etc but this is of DEV ENVIRONMENT. The above picture is of airflow dags where I can find whether the code changed dags are working fine or not and if anything is wrong or it is failing then what is the error for the same for fixing it as soon as possible.

Google Cloud

PRJ-GOUSENAID-DLAK-RES01

Search Products, resources, docs (/)

Cloud Storage

Browser

Monitoring

Settings

← Bucket details

REFRESH HELP ASSISTANT LEARN

us-east1-composer-dev-v4-a0688910-bucket

Location

Storage class

Public access

Protection

us-east1 (South Carolina)

Standard

Subject to object ACLs

None

OBJECTS

CONFIGURATION

PERMISSIONS

PROTECTION

LIFECYCLE

Buckets > us-east1-composer-dev-v4-a0688910-bucket > dags

UPLOAD FILES

UPLOAD FOLDER

CREATE FOLDER

MANAGE HOLDS

DOWNLOAD

DELETE

Filter by name prefix only

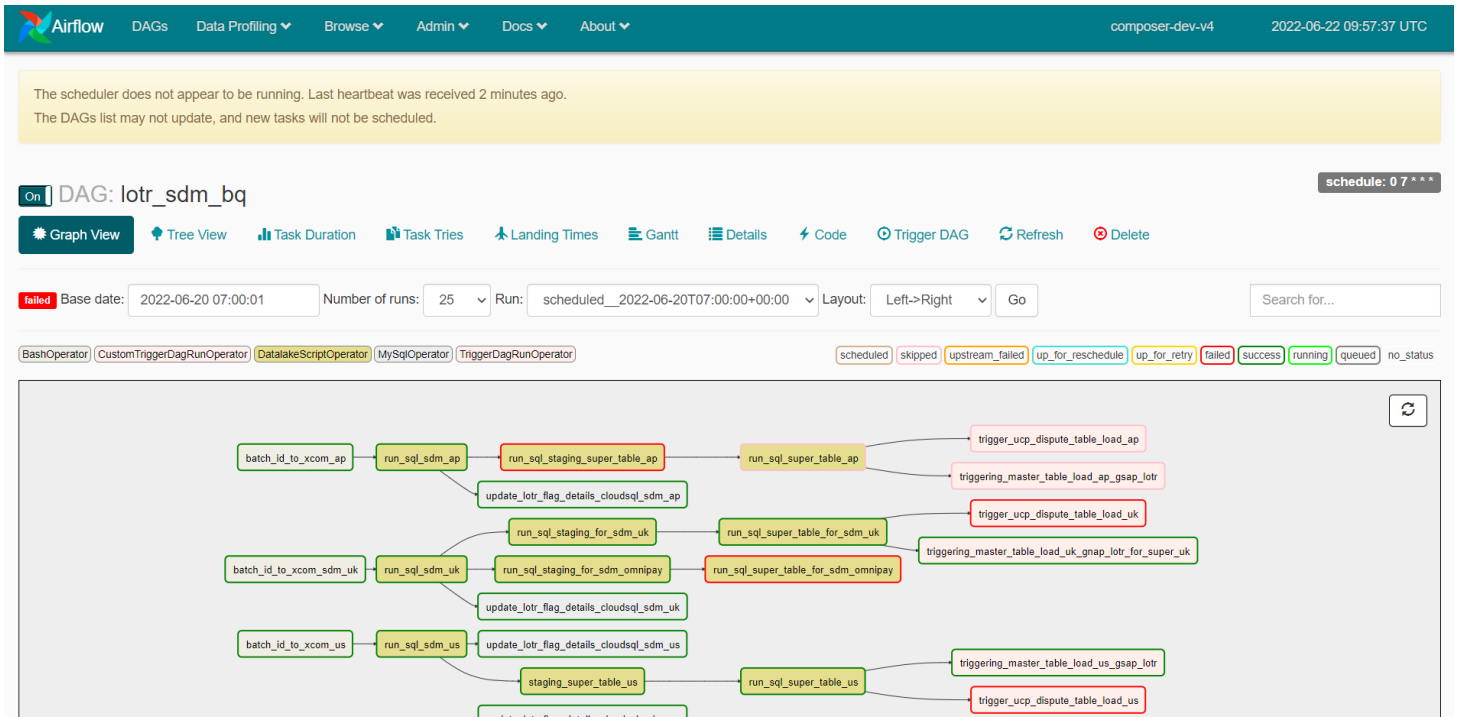
Filter

Filter objects and folders

Show deleted data

<input type="checkbox"/>	Name	Size	Type	Created	Storage class	Last modified	Public access	Version history	Encryption
<input type="checkbox"/>	1.py	386 B	application/octet-stream	Feb 19, 20...	Standard	Feb 19, 20...	Not public	—	Google Cloud
<input type="checkbox"/>	1099k_load.py	30.3 KB	text/x-python	Apr 6, 202...	Standard	Apr 6, 202...	Not public	—	Google Cloud
<input type="checkbox"/>	1099k_propay_load.py	4.4 KB	text/x-python	Feb 19, 20...	Standard	Feb 19, 20...	Not public	—	Google Cloud
<input type="checkbox"/>	AEFile_load.py	10.8 KB	text/x-python	Feb 19, 20...	Standard	Feb 19, 20...	Not public	—	Google Cloud
<input type="checkbox"/>	Aperia.py	2.2 KB	application/octet-stream	Feb 19, 20...	Standard	Feb 19, 20...	Not public	—	Google Cloud
<input type="checkbox"/>	Assignment8.py	2 KB	application/octet-stream	Apr 28, 20...	Standard	Apr 28, 20...	Not public	—	Google Cloud
<input type="checkbox"/>	Currency_Conversion_File_daily.py	5 KB	text/x-python	Jun 21, 20...	Standard	Jun 21, 20...	Not public	—	Google Cloud
<input type="checkbox"/>	DAG-1.py	670 B	text/x-python	Jun 10, 20...	Standard	Jun 10, 20...	Not public	—	Google Cloud
<input type="checkbox"/>	Demo4.py	915 B	application/octet-stream	Feb 19, 20...	Standard	Feb 19, 20...	Not public	—	Google Cloud
<input type="checkbox"/>	GCS_sensor_dag.py	1.2 KB	application/octet-stream	Apr 13, 20...	Standard	Apr 13, 20...	Not public	—	Google Cloud
<input type="checkbox"/>	Interchange_Report_for_Propay_UK_D...	4 KB	text/x-python	May 19, 2...	Standard	May 19, 20...	Not public	—	Google Cloud

3) The above screenshot is of composer dag locations where I can found python scripts (dags) for development purpose and upload here only when I complete code changes for any specific dag because it is in DEV Environment. There are also same locations for different environments such as cert, prod, qa, etc but this is of DEV ENVIRONMENT.



- 4) The above image is how the actual dag and the flow of process looks like. There are various conditions as shown in image above I.e different color for different result e.g green is for running status, red is for showing failed status, grey means the dag is in queue status like this there are many statuses. We can understand full dag with the help of this figure.

Conclusion

On the whole, this internship was a useful experience. I have gained new knowledge, skills and met many new people. I achieved several of my learning goals, however for some the conditions did not permit. I got insight into professional practice. I learned the different facets of working within a NGO. I experienced that financing, as in many organizations, is an important factor for the progress of projects. Related to my study I learned more about the technology and ecology of river dolphins and the threats they face. There is still a lot to discover and to improve. The methods used at the moment are still not standardized and a consistent method is in development. In Bolivia education is an important aspect of the conservation of the dolphin species. I have seen that local people can contribute to conservation, for example with their knowledge. Furthermore, I experienced that it is of importance that the education is objective and that you have to be aware of the view of other people. Environmental education is not one sided, but it is a way of sharing knowledge, ideas and opinions. The internship was also good to find out what my strengths and weaknesses are. This helped me to define what skills and knowledge I have to improve in the coming time. It would be better that the knowledge level of the language is sufficient to contribute fully to projects. After my master I think that I could start my working career. However, I could perform certain tasks in research better if I practice/know more the research methodologies applied in cetacean studies. It would also be better if I can present and express myself more confidently. At last this internship has given me new insights and motivation to pursue a career in ecological research abroad.

Organization SWOT Analysis

According to me the organization SWOT Analysis is:

Bitwise Solutions Strengths	<ol style="list-style-type: none">1. Low-cost advantage and High-quality standards2. Broad range of research and development Services3. Company has impressive list of clientele and mega partnership with – Global Payments, Google, Microsoft and SAP4. One of the good IT Companies in India
Bitwise Solutions Weaknesses	<ol style="list-style-type: none">1. Low operating margin of other group of companies2. Free floating stock is very less for the investor
Bitwise Solutions Opportunities	<ol style="list-style-type: none">1. Company has good opportunity since the sector is growing2. Can diversify in brand product category and consulting services3. Huge potential in domestic market
Bitwise Solutions Threats	<ol style="list-style-type: none">1. Attrition and Employee loyalty2. Increasing cost of Human capital