

# Ranjeet R. Dhumal

11-701, Nyati Equatorial 2, Bhunde vasti, Bavdhan, Pune - 411021

☎ (+91) 9762-633-753 | ✉ ranjeetrdhumal@gmail.com | 📱 ranjeetds | 🌐 ranjeetrdhumal

*"Every day may not be good, but there's something good in every day."*

## Professional Summary

- Currently Working as a Data Scientist at Exadatum Software Services Pvt Ltd
- Machine learning concepts - Regression, Classification, Clustering, Statistics, Neural Networks, NLP, Computer vision, etc.
- M.Sc. in Physics(Quantum Mechanics) from Department of Physics, SPPU, Pune
- Total Experience: 4 Years 5 Months, Relevant Experience : 3 Years 1 Months. 1 year 4 months experience in Research (Computational Physics) and 14 months of teaching experience
- Visiting faculty and board of studies member at MIT-WPU (for masters course Big Data Analytics)
- Patents - <https://patentimages.storage.googleapis.com/43/51/52/959c667ebbbfe9/WO2019097412A1.pdf>

## Skill Sets

### Machine learning Skills

- Linear Model, Logistic Model, Naive Bayes
- KNN, SVM, Random Forest, XGBoost
- Neural Networks (ANN, CNN, RNN)
- TF-IDF, N-Grams, word vectors
- PCA
- Time Series Analysis
- Scikit-Learn, Keras, Tensorflow, PyTorch, NLTK, Spacy, RASA

### Programming Skills

- Python (Object-oriented programming)
- Shell Script
- Android
- MySQL
- Cassandra
- MongoDB
- AWS, AWS Lambda, AWS S3, AWS EC2

## Projects

### Named Entity Recognition on unstructured documents

*Exadatum Software Solutions Pvt Ltd*

USING PYTHON, PYTORCH, STANFORD CORE NLP, BERT, PYTESSEACT ETC.

*Sep 2019 - Now*

- Building a algorithm "Only surrounding matters" to identify named entities in unstructured documents
- Using BERT pretrained model embeddings to train NER model

### Abstractive text summerization

*Exadatum Software Solutions Pvt Ltd*

USING PYTHON, PYTORCH

*Sep 2019 - Now*

- Trying to build algorithm to do abstractive text summarization
- Achieved state of the art blue score of 38% on GigaWord dataset

### Stoppage identification and stoppage Intent prediction

*KPIT Technologies*

USING PYTHON, SCIKIT-LEARN, TENSORFLOW, SPACY

*Jan 2019 - Now*

- Built a algorithm to identify stoppages taken by vehicle using geo-spatial data and predicting its possible intent (Among 17 intents)
- Achieved accuracy of 90% + for stoppage intent prediction

### Journey cost optimization and planning

*KPIT Technologies*

USING PYTHON, SCIKIT-LEARN, OR-TOOLS

*July 2018 - Dec 2018*

- Built a state of the art algorithm to find the cost-optimal route
- Also built Journey planning (Recommendation engine) algorithm
- Developed modified DBSCAN algorithm (Internally called Selective C-DBSCAN algorithm)

## Chatbot to resolve support tickets (With vernacular language support)

KPIT Technologies

USING PYTHON, RASA, DUCKLING, SPACY, ANGULARJS ETC

Feb 2019 - Now

- Used google APIs for vernacular language support, and Rasa stack as chatbot framework
- Reduced human efforts required for support by 60% and cost by 40%

## Analytics use cases POC on telematics data

KPIT Technologies

USING PYTHON, SCIKIT-LEARN, TENSORFLOW, PYTORCH, SPACY, NLTK, ANGULAR JS ETC.

July 2018 - NOW

- Built various POC's like road sign detection, fuel theft identification etc.

## Real-time sound analytics to get OEE, Quality, Performance, etc for CO2 welding machine

Asquared IoT

USING PYTHON, SCIKIT-LEARN, PY-AUDIO, TENSOR-FLOW ETC

2017 - June 2018

- Built a product which records sound and predicts Welding(CO2) operations Quality, Performance, Availability, OEE, etc in real-time
- Developed novel sound analytics technique to classify CO2 welding sounds

## Case study - Vehicle OBD data analytics

Asquared IoT

USING PYTHON, PANDAS, SCIKIT-LEARN ETC

Feb 2017 - Jun 2017

- Used machine learning to get parameters which are not directly measured by sensors like headlight ON/OFF status etc
- Built predictive models using Random Forest, SVM, Linear regression to get instantaneous fuel consumption, Fuel trim prediction, etc
- Complete case study:- <http://www.a2iot.com/wp-content/uploads/2017/04/A2IoT-OBDDII-Case-Study.pdf>

## Identification of fault in milling machine operation

Asquared IoT

USING PYTHON, PANDAS, SCIKIT-LEARN ETC

Feb 2018 - Apr 2018

- Applied clustering on milling machine sound data (DBSCAN and K-means clustering)
- Identified anomalies (Faults) in various subprocesses

## Android application for Equilips 4.0

Asquared IoT

USING ANDROID STUDIO, JAVA, XML ETC

June 2017 -

## Patents

---

### SYSTEM AND METHOD FOR MULTIMEDIA-BASED PERFORMANCE MONITORING OF AN EQUIPMENT

Asquared IoT

ASQUARED IOT PVT LTD

- Link - <https://patentimages.storage.googleapis.com/43/51/52/959c667ebbbfe9/WO2019097412A1.pdf>

## Projects

---

### Loan Prediction

AnalyticsVidhya.com

ANALYTICSVIDHYA.COM PRACTICE PROBLEM

OCT 16 - DEC 16

- Achieved Score - 78.47% with 243 rank, while 82.63% being highest score.

### CIFAR 10 Computer Vision Data set

Kaggle

OBJECT RECOGNITION IN IMAGES

OCT 2016

### Molecular Dynamics

CMS

USING PYTHON

2015

## Work Experience

---

### Exadatum Software Services Pvt Ltd

Pune

DATA SCIENTIST

Sep 2019 - Present

- Working on various research oriented NLP tasks

## KPIT Technologies

DATA SCIENTIST

Pune

July 2018 - Sep 2019

- Lead Data science team
- Worked with customers like Castrol, IOCL to build data driven JRM solution for their vehicle fleet

## Asquared IoT Pvt Ltd

DATA SCIENTIST

Pune

Feb 2017 - July 2018

- Sound Analytics and real time sound processing
- Integral part of the team which built Equilips 4.0 product

## Center For Modeling and Simulations

Savitribai Phule Pune University,

Pune

RESEARCH ASSISTANT (COMPUTATIONAL PHYSICS)

September 2015 - January 2017

- Worked on a project entitled "Water Dissociation Using Ruthenium based Organo-metallic Compounds" and "Identification of Topological insulators"

## Rani Laxmibai Mulinchi Sainiki shala & Jr College, Pune

Pirangut, Pune

ASSOCIATE TEACHER (PHYSICS)

July 2015 - April 2016

- Taught Physics Subject to 11Th and 12Th standard students, And arranged scientific tours for students

## Education

---

### MSc in Physics(Advanced Quantum Mechanics)

Savitribai Phule Pune Univeristy

DEPARTMENT OF PHYSICS

2015

- With 3.550 CGPA

### BSc in Physics

Savitribai Phule Pune Univeristy

FERGUSON COLLEGE, PUNE

2013

- With 79.41%

## Extra-Curricular Activities

---

- Participated in three days' workshop "frontiers in physics-V" at Fergusson College, Pune, organized by Astro Club
- Participant in 4 days workshop on observational astronomy by Khagol vishwa
- Participated in Science conference (Chemistry) arranged by Marathi Vidnyan Parishad

## Languages

---

- Marathi
- Hindi
- English

## Declaration

---

I hereby declare that all the information mentioned above is true as far as my best knowledge is concerned