

Shubh Vachher

ELECTRONICS AND INSTRUMENTATION STUDENT · BITS PILANI, GOA

Ah1 - 310, BITS Pilani, K.K. Birla Goa Campus, NH 17B, Zuarinagar, Goa 403726, India

☎ (+91) 77220-48384 | ✉ f2014471@goa.bits-pilani.ac.in | 📷 shubhvachher | 🌐 shubh-vachher-440b16a2



"Aspiring Data Scientist interested in Software and System development and Internet of Things"

Education

Birla Institute of Technology and Science (BITS) Pilani

SINGLE DEGREE (4 YEARS)

- B.E. (Hons) in Electronics and Instrumentation Engineering

K.K. Birla Goa Campus

Aug. 2014 - Exp. May. 2018

Dayanand Anglo Vedic (DAV) Senior Secondary School

HIGH SCHOOL AND JUNIOR COLLEGE

- CBSE All India Senior School Certificate Examination (Standard 12) (97.6%)
- CBSE All India Secondary School Examination (Standard 10) (CGPA : 10)

Mogappair, Chennai

2012 - 2014

Technical Skills

Programming	Proficient : Python, C++, Matlab Familiar with : C, Prolog, Verilog HDL, CADENCE, Proteus
Python Tools	Scikit-Learn, Keras, XGBoost, Multi Processing, OpenCV, NumPy, Pandas, Matplotlib, SciPy
Methods	Neural Network Architectures (ANN, CNN), Decision Trees and Forests, SVMs, Ensembles, Data pre-Processing, PCA
Cloud Platforms	Google Cloud Platform, Digital Ocean
Operating Systems	Linux, Windows

Experience

FastnExT

DATA SCIENTIST · STARTUP

- Working on gensim, word embedding models, word similarity predictions
- Made a real time AI based recruiter bot that reads Job Descriptions and matches candidates that fit the requirements
- Built a system to predict the likelihood of a candidate shifting jobs using XGBoost; saved the company 84% futile calls on average hiring cycle

Tidel Park, Chennai, India

Dec. 2016 - PRESENT

Central Electronics Engineering and Research Institute (CEERI)

WINTER INTERN UNDER SENIOR SCIENTIST · MOHAMMAD IQBAL

- Developed a logistic regression model with near perfect accuracy on ripe vs unripe fruit images
- Developed supporting mechanism to allow for automatic imaging, grading and sorting of fruits into baskets

Chennai, India

Dec. 2016 - Jan. 2017

Central Electronics Engineering and Research Institute (CEERI)

SUMMER INTERN UNDER SENIOR SCIENTIST · MOHAMMAD IQBAL

- Developed a fully functional control system for automated citrus fruit sorting achieving 92% accuracy
- Novel method developed to account for partial contour detection that improved system reliability up from 70% to 92%

Chennai, India

May 2016 - Jul. 2016

Research Projects

DNA-Protein Interaction | Prediction using Machine Learning

WORKING ALONGSIDE · DR. RAVIPRASAD ADURI, DEPT. OF BIOLOGY, BITS GOA

- Data was mined from the RCSB (Research Collaboratory for Structural Bioinformatics) Protein data bank
- Data was curated and understood for a period of 6 months
- Cutting edge techniques such as Xtreme Gradient Boosting were deployed with accuracies of interaction prediction of over 80%

BITS, Goa, India

Aug. 2016 - PRESENT

Performance of SVM vs. KNN vs. RF on EEG data for Epilepsy Prediction

WORKING ALONGSIDE · DR. RAVIPRASAD ADURI, DEPT. OF BIOLOGY, BITS GOA

- Multivariate time series EEG epilepsy data studied with a focus on comparison of ML techniques applied on such data
- Multiple signal processing techniques were learnt and employed including statistical, hjorth parameters, Fourier and Wavelet transforms
- Data was provided online by the American Epilepsy Society Kaggle competition

BITS, Goa, India

Jan. 2016 - PRESENT

Fake Currency Note Detection using Deep Neural Networks and SVMs

PART OF QUARK MACHINE LEARNING SUMMER CHALLENGE

BITS, Goa, India

Jun. 2015 - Jul. 2015

- Improved upon the accuracies achieved on the UCI Machine Learning Repository dataset
- Achieved upwards of a 99.5% and a 99.7% accuracy making use of cross-validation using the ANN and the SVM respectively

Elevator Control System made using Proteus software

END SEMESTER PROJECT FOR THE MICRO PROCESSOR COURSE

BITS, Goa, India

Mar. 2015 - Apr. 2015

- Developed control logic for the motor of an elevator on the INTEL 80x86 processor
- Created required memory mapping for RAM, ROM etc. and used circular queue based interrupt IC : INTEL 8259

Graphical User Interface for Windows file-system in Turbo C++

STUDY PROJECT FOR COMPUTER PROGRAMMING COURSE IN JUNIOR COLLEGE

DAV Senior Secondary, Chennai

Jan. 2014 - Mar. 2014

- Implemented folder and file handling as well as desktop customisation
- Experienced managing and documenting big codebases
- Made heavy use of graphics.h library

I have 4 research publications in progress : 2 with Dr. Raviprasad Aduri and 2 with Senior Scientist Mohammad Iqbal to be published within the coming 6 month period (by Dec. '17).

Teaching Experience

Machine Learning - BITS F464

TEACHING ASSISTANT

BITS, Goa, India

Aug. 2017 - PRESENT

- Teaching weekly labs on Applied Machine Learning using Python for about 80 students
- Will design the end semester project and evaluate student performance worth 20% of the total grade of the course

Artificial Intelligence - CS F407

TEACHING ASSISTANT

BITS, Goa, India

Aug. 2017 - PRESENT

- Helping teach bi-monthly labs on AI concepts using Prolog Programming

Computer Programming - CS F111

TEACHING ASSISTANT

BITS, Goa, India

Jan. 2017 - May. 2017

- Helped the students with C syntax and performed evaluation of lab work for a 2 hour lab every week

Introduction to Machine Learning

MENTOR, QUARK SUMMER TECHNICAL PROJECT

BITS, Goa, India

May. 2016 - Aug. 2016

- Taught about 25 students the basic concepts in Machine Learning and took them through the MNIST dataset problem over the course of one summer vacation

Positions of Responsibility

PRESENT **Coordinator**, Technology Incubator Programme (TIP)

BITS, Goa, India

2015 - 16 **Sub-Coordinator**, Technology Incubator Programme (TIP)

BITS, Goa, India

2015 - 16 **Secretary**, Electronics and Instrumentation Department Association

BITS, Goa, India

2012 - 14 **School Pupil Leader (Head Boy)**, D.A.V. Senior Secondary School, Mogappair

Chennai, India

Other Tests Taken

CBSE All India Problem Solving Assessment

PERCENTILE SCORES AGAINST STUDENTS IN INDIA

India

2013

- Quantitative Reasoning : 99.75%
- Qualitative Reasoning : 99.48%
- Language Conventions : 98.08%

Joint Entrance Examination(JEE) Mains

COMMON ENTRANCE TEST FOR INDIAN INSTITUTES OF HIGHER EDUCATION IN ENGINEERING AND SCIENCE

India

2014

- All India Percentile Score in qualifying exam : 98.74%
- All India Rank of 2637 out of over 1.3 million Indian test takers

Extracurricular Activity

10k Marathons

PARTICIPANT

Goa, India

Feb. 2016 - PRESENT

- 1hr: 06min - Goa Marathon Feb 2016
- 1hr: 04min - Goa River Marathon Dec 2016
- 0hr: 54min - Goa Marathon Feb 2017
- 0hr: 46min - Spree Safety Run 8.4KM Mar 2017

Mime Club)

CORE MEMBER

BITS, Goa, India

Sep. 2014 - Sep. 2016

- Involved in acting, slides and directing of more than 8 performances in 2 years. Performances include silent acts, UV and LED light shows and shadow performances for an audience of over 2000 people
- Made lifelong friends with fellow performers in one of the most active clubs in college