

Prateek Gulati

+91-9999183725

prateek.gulati.8822@gmail.com

<https://prateekgulati.github.io/>

<https://www.linkedin.com/in/prateeksworld/>

<https://github.com/prateekgulati/>

https://medium.com/@prateeks_world

Education

EXTENSIVE VISION AI PROGRAM (Part time)

2019 – Present

THE SCHOOL OF AI

Bangalore

COMPUTER SCIENCE ENGINEERING with MATHS (minor): CGPA 8.15 (8.89 CSE)

2013 – 2017

SHIV NADAR UNIVERSITY

Gautam Budh Nagar

HIGH SCHOOL: 12th: 92.4%

2013

MATRICULATION: 10th: 10.0 CGPA

2011

Research

Augmentation at Channel Level

Sept 19 - Present

Applying data augmentation at channel level inside a Convolutional Neural Network where channel size is relatively small; hence, saving over computation.

Facial Feature Manipulation using cycle-GAN:

July 2019

Given an input image of a face, it changes race, gender, and age. Uses 3 cycle-GANs each responsible for a single feature

Stanford DAWNbench – CIFAR10

June 2019

Attempt to beat Stanford DAWNbench for CIFAR10; current best: 93.8% accuracy in 200 secs on V100 GPU

Tiny ImageNet Challenge

Feb 2019

Modified DenseNet with 9M parameters, Validation Accuracy: 63%, Epoch=95. Applied optimization techniques like cyclic LR and progressive resizing. Used GradCam and weighted based training for poorly performing classes.

Binary Number Sequence

Jan-Aug 2016

Acknowledged in Binary strings of length n with x zeros and longest k-runs of zeros Nej, Monimala & Reddy, A, **published**:

INDIAN JOURNAL OF MATHEMATICS 2019

Breast Tumour Diagnosis

Oct 2015

Diagnosing malignant vs benign breast tumor via Machine Learning.

Dataset used: Wisconsin (Diagnostic). Applied Classification (Logistic Regression and SVM)

Experience

DELL TECHNOLOGIES

July 2017-Present

Software Engineer 2

Bangalore

BOT Onboarding Platform: Built a portal to onboard a chatbot on Skype for Business.

Using NLP and ML Techniques in Quality Engineering Org to address problems Dell's Supply Chain in an innovative way

Recognized with first-ever **GameChanger** Award, won 5 hackathons, 1 innovation rally and mentored interns

ASPIRING MINDS

Jan – June 2017

Research Intern

Gurgaon

Extended their tool **AUTOMATA: A System to Grade Computer Programming Skills** to seven languages by extracting informative features and determining the closeness of logic using machine learning. Further extended the research by extracting features from non-compileable codes.

Worked On: *Antlr, CurrentParser, Ripper, AST, Parse Tree, UnitTest, Python, Ruby, C#*

DELL TECHNOLOGIES

May – July 2016

Undergrad Intern Associate

Hyderabad

RUTILD, Resource Utilization Dashboard: A webapp with a dashboard that helps an organization to establish and sustain resource utilization that drives profitability. Recognized with Internovation award

Worked On: Python, pandas, flask, jinja2, JavaScript, D3.js, nvD3.js, bootstrap, jQuery, AJAX

VIDEOCON D2H

June – July 2015

Machine Learning Intern

Greater Noida

Developed a **Tele-Recommender System** using Machine Learning techniques, to improve the user experience for their customers. Used Collaborative filter on content and user similarity.

Dataset used: Movielens, Worked On: Python, NumPy, scikit for various calculations, and wxpython for GUI

Projects

DARINT: Bot Onboarding Portal

May 2019

A web-based Platform-As-A-Service (PAAS) to onboard a chatbot on Skype for Business. One can train user queries, extract intents and entities, and map action items. It also has a cognitive-based feedback mechanism

Key Features: Feedback mechanism, Dashboard, Minimal Technical Knowledge

Tech Stack: RASA NLU, Kubernetes, Apache NiFi, subprocess

COLPROD: Collection Process Digitization

Dec 2018

An E2E solution that eases the way collectors operate by improving adherence of the problem coding to determine appropriate actions.

Key Features: Phrase Completion, Topic Modelling, Classification

Tech Stack: Keras RNN LSTM, LDA, nltk, sklearn, genism word2vec

CHANAKYA: The First of its Kind

June 2018

On-premise skype app assistant that resolves issues related to global inventory of Dell's Supply Chain. This was the first chatbot to be onboarded on Skype for Business within Dell.

Tech Stack: MS Luis, QnA, Bot SDK, UCWA APIs, Bot Emulator, Python, C# Automation

SIA: Schema Intelligent Agent

Oct 2017

A chat-based app to predict action for a stuck order in Dell's supply chain for 3rd party vendors. USP: easy extension to other applications/domains.

Tech Stack: DialogFlow, Keras, TensorFlow, pandas, LSTM, DNN

HOMIE BOT

Apr 2016

Demonstrating IoT at a prototype level. An app that notifies the user on detection of an unidentified object and lets you control home devices

Worked on: Python, Telegram API, OpenCV, cloudsight, thingspeak, Pyserial.

AASY: Automated Attendance System

Nov 2014

An app that includes facial detection, recognition and marking attendance for the student.

Key Feature and Tech Stack: HOGS based image recognition, MatLab, Arduino, Database Management, Image Processing.

Research Blogs

BatchNorm is not a Norm!

Sep 24, 2019

This article discusses different types of normalizations in a Convolutional Neural Network and the importance of Batch Norm.

Inspired from the previous article, there is an experiment that involves the random dropping of BatchNorm Layers and validating it across the accuracy. Featured in **Towards Data Science** group

Is ReLU ReLUvant?

Sep 11, 2019

This article discusses the usage of an activation layer in a Convolutional Neural Network. Includes an experiment that involves a random dropping of ReLU Layers and validating the accuracy. Published in **Towards Data Science** group

Honors & Awards

InnovateToInspire Hackathon, Bangalore, 2019 – **State Winner**

Recipient of first **GameChanger Award**, the **highest recognition at Dell** for excellent contribution in Bot Portal

Blockchain Hackathon, 2019 at Dell – **Winner**

TechnoFest Innovation, 2018 at Dell – **First Runners Up**

DDIT Summit, 2018 **Best in Customer Experience Award** at Dell

Hack.Fin, 2018 at Dell – **Winner**

AI Hackathon, 2017 at Dell – **First Runners Up**

Bronze Merit, Dell FY18 Q4

Intern-novation **Finalist**, 2016 at Dell

Full academic scholarship for Undergraduate Degree at Shiv Nadar University

Silver merit in Technothon 2010 by IIT Guwahati

Gold medallist in 8th National Science Olympiad 2005 and 4th National Cyber Olympiad 2004

Gold and Silver medallist in International Informatics Olympiad 2005 and 2006

State Rank 3 and awarded (INR 1000/-) in 6th Bhaskara Maths Competition 2009

Appreciation certificate in Science Open Merit Test-2010

Five-time consecutive scholar in school 2006-2011

Other Contributions

Member of **Patent Committee** at Dell – FY19

Planning **Lead of PTP committee** FY19 that serves for the welfare of underprivileged section of society

Founding Member of the **SNU ACM Chapter**