

# Sathvik Sanjeev Buggana

## Education

- 2016–2020 **International Institute of Information Technology, Hyderabad,**  
*B.Tech in Computer Science, MS by Research in Computational Natural Sciences.*  
GPA – 9.02
- 2014–2016 **FIITJEE Junior College, Hyderabad,**  
*MPC.*  
Score – 98%
- 2014 **Good Shepherd English Medium School , Nandyal,**  
*Class 10, GPA - 9.8.*

## Experience

- Aug **SDE Intern, NEBULAE**SOFT.  
2017–Nov  
2017
  - A three month internship as a part of Structured Systems and Development Group.
  - Using Mongoose, MongoDB , NodeJs primarily, I helped in extending the functionality of the client's existing app.
  - Used a systems oriented approach with detailed documentation, as this was a project for SSAD Course.

## Projects

- Jan - Sep 2019 **Twitter Data Analysis for Elections 2019, Prof. Ponnurangam Kumaraguru, IIIT-D.**
  - Undertook an Independent study with Prof. PK from IIIT Delhi, about analysing the effect of Social Media on Elections. Undertook various threads as follows
  - Created a dashboard, using Dash (Plotly) for publishing the results of analysing twitter data collected during Elections 2019.
  - Worked on analysing twitter accounts of verified politicians, and Geo analysis of tweets in the context of Elections
  - Paper submitted for CODS-COMAD 2019 titled **Catching up with trends: The changing landscape of political discussions on twitter in 2014 and 2019**
- Spring 2019 **Deep Learning for Protein Secondary Structure Determination, ML for Natural Sciences Course.**
  - Using deep learning we improved the accuracy of **protein secondary structure prediction**, and were able to get higher accuracy by using attention mechanism in our model.
  - We used **Keras**, for building the deep learning model
- Monsoon 2019 **Wikipedia Search Engine, Information Retrieval and Extraction.**
  - Built a **scalable search engine** for querying Wikipedia data (75 GB)
  - Built an inverted index, for querying the data, after applying preprocessing steps(tokenization, stemming ...)
  - The documents that are found to be matching are ranked and returned for the user
- Spring 2019 **Pegasos SVM, Optimization Methods.**
  - Pegasos is Primal Estimated sub-gradient Solver for SVM, which is an improved version of SVM.
  - Implemented many variants (non kernalized, kernalized) of Pegasos, for **classification of Fashion MNIST** Data set
- Monsoon 2018 **Face recognition from scratch, Statistical Methods in AI.**
  - Using basic concepts (PCA) and basic Python libraries like Numpy, Python - PIL library, a **face recognition classifier** has been designed.
  - Designed a Naive Bayes and Linear Classifier from basic concepts.

Spring 2018 **Game Development, Graphics.**

- Using OpenGL and WebGL, I designed a few games.
- A 2D Mario type game, where the player controls a ball, in a terrain collecting coins and killing enemy spikes.
- A 3D version of Legend of Zelda, where the character moves in a boat, killing monsters of various difficulties, and various views.
- Used WebGL to create a tunnel rush game.
- In all these projects, I extensively used, the concepts of camera movement, rotation, changing perspective.

Monsoon **C-Shell, Operating Systems.**

- 2018
- Built a **Bash-like shell** using C and POSIX Syscalls.
  - Implemented certain built-in commands from scratch (cd, ls, pwd, echo).
  - Implemented background and foreground processes, piping and redirection.

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## Skills

Languages	C, C++ , Java(Basic), Python, Bash
Web Dev	HTML5, CSS3 ,JavaScript,Jquery, NodeJs, Bootstrap
Web Frameworks	Flask, Dash (Plotly), Ruby on Rails
Graphics	OpenGL, WebGL
ML Libraries	Keras, Scikit-Learn
Image Processing	Matlab
Utilities	Anaconda, Git, Jupyter
Libraries	Numpy, Pandas, Beautiful Soap, Plotly, Matplotlib, Geopy, Prody, Biopython

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## Relevant Courses

Ongoing	Informational Retrieval and Extraction, Compilers
Completed	ML for Science, Optimization Methods, OS, CNS Lab, Statistical Methods in AI, Graphics, Formal Methods, Introduction to Databases, Structured System Analysis and Design, Algorithms, Data Structures, Computer Programming, Computer Systems Organisation, IT Workshop

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## Extra Curriculars

Ongoing	<b>Student Placement Committee, Coordinator.</b> Responsible for the campus placement for the year 2019, at IIIT Hyderabad
Ongoing	<b>IIIT-H Toastmasters, VP Education and Membership.</b> Elected as the vice president for membership at IIIT Toastmasters club. Duties involve ensuring the renewal of old members, and motivate the smooth transition for new members into Toastmasters
Aug 2018 - Apr 2019	<b>Literary Club, Club Coordinator.</b> Conducting monthly meetings, and planning the agenda for each meet. In each meet, we discuss pop culture, books, movies or conduct fun activities.