



# SUBHALINGAM D



## ACADEMIC DETAILS

Year	Degree / Board	Institute	GPA / Marks(%)
---	B.Tech in Mathematics & Computing	Indian Institute of Technology, Delhi	7.782
2018	CBSE Std. XII	Chennai Public School, Chennai	96.4%
2016	CBSE Std. X	Chennai Public School, Chennai	10

## INTERSHIPS

- MateRate Education Pvt Ltd, Delhi** May '20 - Jul '20
- **Machine Learning Researcher & Developer** | Modelling knowledge state of students using responses from examination
    - Leveraged **Item Response Theory** to map ability of students using item parameters to train **Maximum Likelihood Estimator**
    - Analysed predicted results, modified cost function and tweaked various parameters to improve performance significantly
    - Researched on existing **Knowledge Tracing** architectures to contribute in building an **Adaptive Learning** model
  - **Backend Web Developer and AWS Associate** | Development of Results Portal and Management of Operations in AWS
    - Designed database tables and built efficient Web **APIs** using **Django REST framework** for detailed analysis of results
    - Deployed Moodle and web applications into **AWS** using *EC2, RDS, Elastic Beanstalk, EFS, S3* and *CloudFront* services
    - Added Load Balancers to instances, monitored metrics in *CloudWatch* and used *Route53* to route end-users to domain
- Received 'Letter Of Recommendation' from the CEO for exemplary work accomplishments across multiple domains*

## PROJECTS

- **Movie Review Sentiment Classifier using RNN** May '20
  - Leveraged **RNNs** with pre-trained **GloVe** word embeddings and **LSTM** layers to build a movie review classifier
  - Trained the model using *IMDB dataset* with *50k reviews* after pre-processing and obtained an accuracy of about **88%**
- **Website Designing & Development | Student Affairs Council (SAC), IIT Delhi** Feb '20 - present
  - Revamped the website using *CSS & Javascript* for better user experience and easy accessibility & retrieval of information
- **Graphs with Triangulation | Prof. Subodh Kumar, Computer Science and Engineering** Oct '19 - Nov '19
  - Approximated given shapes in 3D Real space into small triangular components and constructed a **Graph** data structure
  - Performed operations like finding neighbours, boundary edges, number of connected components, closest components
- **Jobs Scheduler & Manager | Prof. Subodh Kumar, Computer Science and Engineering** Sept '19 - Oct '19
  - Executed jobs added by each user for each project based on the priorities and resources; used **Max-Heap, Red-Black Tree, Trie**
- **Symbolic Differentiation | Prof. Subhashis Banerjee, Computer Science and Engineering** May '19
  - Constructed a **Binary Tree** by parsing valid fully parenthesised infix expression and computed its derivative by traversal
  - The parser was made to support a variety of functions like algebraic, trigonometric, exponential & composite functions

## TECHNICAL SKILLS

**Programming Language:** Python, Java, MATLAB, C++      **Web Development:** CSS, MySQL, PHP, Django, jQuery  
**Data Science:** NumPy, Tensorflow, Keras, Jupyter, Pandas      **Other Skills:** AWS, Bash, LaTeX

## POSITIONS OF RESPONSIBILITY

- **Overall Coordinator | Mathematics Society, IIT Delhi** Jul '20 - present
  - Design and develop the society website, manage social media handles and plan & organise various events
- **Web Development Executive | Student Incubation Cell, IIT Delhi** Sept '19 - Jul '20
  - Designed & Developed Entrepreneurship Portal for the Institute using *Node.js, CSS* and *Javascript* as a team
  - *Got appreciation from Prof. V. Ramgopal Rao (Director) & Prof. P. V. Madhusudhan Rao for commendable work done*

## EXTRA CURRICULAR ACTIVITIES

- **Language Mentor** | Conceived innovative ideas to analyse and track progress of students Aug '19 - Dec '19
  - Assisted freshmen in overcoming English Language barrier by conducting interactive sessions throughout the semester
- Active Volunteering under **National Service Scheme (NSS)** : *Over 120 hrs of contribution primarily in Teaching Projects*
  - **VIDYA Project:** Taught students of classes from 3rd to 12th to inculcate the fundamental concepts of all subjects
  - **NAB Project:** Interacted with the students at *NAB, RK Puram*, and assisted them in learning their school subjects
  - **Garhwal Project:** Prepared notes from certain chapters of *Mathematics of Class 12* for usage in *JEE Main* preparation
  - **Intellify:** Prepared concept videos from *Chemistry Class 12* to help students understand the chapters during *COVID-19*
- **Technical Executive | Rendezvous '19** | Part of the Web Front-end Development team Aug '19 - Oct '19

## SCHOLASTIC ACHIEVEMENTS

- Qualified in **Cambridge English: Preliminary (PET)** (*B1 Preliminary for Schools*), conducted by **University of Cambridge**
- Completed **Deep Learning Specialisation**, offered by *deeplearning.ai* on Coursera May '20