



R HARI SHANKAR



ACADEMIC DETAILS

Year	Degree / Board	Institute	GPA / Marks(%)
---	B.Tech in Computer Science & Engineering	Indian Institute of Technology, Delhi	8.457
2019	CBSE	Delhi Public School, Vasant Kunj	96.8
2017	CBSE	Delhi Public School, Gurgaon	10

SCHOLASTIC ACHIEVEMENTS

- **Joint Entrance Examination (JEE) Main Rank** : Secured All India Rank **485** (out of 1.2 million candidates)
- **KVPY 2018 (SX)**: Secured **AIR 2**, awarded the prestigious fellowship by the Department of Science & Technology
- Facilitated by **Minister of Human Resource Development** for being in the **National Toppers List** of AISCCE exam
- **Dhirubhai Ambani Scholarship Award 2019**: Awarded to **National Toppers** in Class XII AISCCE board exam
- **INSPIRE Internship 2017** : Selected in the internship program organized by the Department of Science & Technology
 - Awarded **most original and innovative idea** for the final project, pitched to the esteemed panel members by my team
- **National Level Science Talent Search Examination (NSTSE) 2016** : Secured rank **178** (out of 0.5 million candidates)

INTERNSHIPS

- **Velai INC, USA** (July, 2021 - Oct, 2021) : *Socio-Economic Predictions using Time Series Machine Learning models*
 - Working under the guidance of **Prof Lakshminarayanan Subramanian** : Professor in the Computer Sc. Dept at NYU
 - Analyzed national data & found **Correlation Matrix** which separated the independent factors used to interpret models
 - Optimized time series predictions using **LSTM ,AutoReg ,VAR and ARIMA** models achieving **85-92%** test accuracy
 - Automated daily data collection using **Beautiful Soup** and **Cron Job** to schedule web scrapping from live datasets
- **IIM Ahmedabad** (May, 2021 - July, 2021) : *Opinion Mining for Crisis and IT Capabilities of Retailers* [**Prof Pankaj Setia**]
 - Collected large datasets of Twitter data using **Sprinklr**, these datasets were used to **analyze sentiments & statistics**
 - Preprocessed the dataset by applying **Tweet tokenizers**, lemmatization, removed stopwords and cleaned the text data
 - Analyzed the dataset using **NLTK** and **Textblob** libraries which determined **polarity** of tweet leading to **opinion mining**

PROJECTS

- **Handwritten Digit Recognition (Prof S.Srirangarajan)** (March,2021 - May,2021) : Developed **multi-class classifier** to predict the handwritten digit using logistic regression achieving accuracy of **92%**. Optimized model using **neural network** and **sigmoid gradient descent** evaluating to **>97%** accuracy. Applied **regularization** to remove overfitting of data
- **Two Player Maze Game (Prof Rijurekha Sen)** (March, 2021 - May, 2021) : Designed **multiplayer** maze game using **SDL** library in C++. Added graphics, background sound, animation, walls, boost features and movement of characters . Generated maze applying **Prims** algorithm and **DFS**. UDP networking accomplished using **enet** and **socket** libraries
- **Traffic Density Estimation (Prof Rijurekha Sen)** (Feb, 2021 - March, 2021) : Implemented camera perspective correction and road cropping using **OpenCV** . Analyzed data by calculating **queue** and **dynamic density** to graphically visualize traffic flow. Implemented **multithreading**, sub-sampling and resolution change reducing runtime by **8 times**
- **Dynamic Memory allocation (Prof Rahul Garg)** (Oct, 2020 - Nov, 2020) : Used Doubly Linked List, BST and AVL Trees to optimize the clearing and allocation of contiguous memory in **O(logn)** time & defragmentation in **O(nlogn)** time
- **Stock Market Prediction** (June, 2020) : Predicted Stock Prices with **<2%** error using **LSTM model** from Keras library

TECHNICAL SKILLS

- **Programming Languages** : C, C++, Python, Java, HTML, CSS , SQL, SML, VHDL, MIPS
- **Libraries** : Sklearn , Scipy , AutoReg , OpenCV , SDL , Enet , Tensorflow , Keras , Folium , Pandas , Numpy , Matplotlib
- **Software and Frameworks** : Octave , Netbeans , Autodesk , Latex , Git-Github

POSITIONS OF RESPONSIBILITY

- **Event Coordinator, ACES-ACM** (July, 2021 - Present) : Organized CS dept related events for **500** students of the dept
- **ISC Representative, Shivalik Hostel** (Sept, 2020 - Mar, 2021) : Managed all indoor sports activities for **500 students** of Hostel. Conducted the **Intrahostel Chess Competition** & trained the hostel team for the **Interhostel Competition**
- **Executive, Economics Club** (Sept, 2020 - July, 2021) : Responsible for creating & maintaining the Clubs webpage
- **Executive, Physics and Astronomy Club** (Sept, 2020 - July, 2021) : Responsible for designing the Clubs webpage

EXTRA CURRICULAR ACTIVITIES

- **Academic Mentor** : Mentored freshmen students in **MTL101** in spring 2020-21 ensuring steep growth in learning curve.
- **THSMUN 2016**: Awarded **Best Delegate** in AIPPM committee for the portfolio of AAP on matters of "sedition law"
- **Utopia MUN 2016**: Awarded **High Commendation** in AIPPM committee for the portfolio of Dushyant Chautala
- **SHIS MUN 2016**: Awarded **Special Mention** in Cabinet Committee for the portfolio of Defense Minister of India



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IIT COURSE

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B.Tech in Computer Science & Engineering	Indian Institute of Technology, Delhi	8.457

COURSES DONE

Linear Algebra & Diffe. Equa., Intro. To Electrical Engg., Calculus, Intro. To Computer Science, Probability & Stochastic Pro., Microeconomics, Principles Of Elect. Materials, Data Structures And Algorithms, Digital Logic & System Design, Discrete Mathematical Structur, Computer Architecture, Design Practices, Signals And Systems, Machine Intelligence& Learning