Rochan Avlur Venkat

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EDUCATION

- **Mahindra Ecole Centrale** Hyderabad, India
  Bachelor of Engineering in Computer Science; GPA: 3.65 (9.13/10.0) *Aug. 2017 – May, 2018*

- **AECS Maaruti Magnolia Pre University College** Bangalore, India
  High School; GPA: 3.20 (8.0/10.0) *Jun. 2015 – March. 2017*

- **Delhi Public School - East** Bangalore, India
  High School; GPA: 3.9 (9.8/10.0) *Jun. 2015*

SCHOLASTIC ACHIEVEMENTS

- **Computer Science Department, Freshman Year** Hyderabad, India
  Top 10 in a class of 60 students *May 2018*

- **SAT Test score** Bangalore, India
  SAT: 1350/1600; Subject SAT: 2320/2400 (Physics: 770, Math: 800, Chemistry: 750) *Nov 2016*

RELEVANT COURSES

- **Sophomore**:

  - Data Structures - *Sorting & Searching Algorithms, Hashing, Trees, Graphs*
  - Discrete Mathematics - *Sets, Functions and Relations, Counting, Advance Counting Techniques, Graphs*
  - Mathematics - *Probability, Random Processes & Statistics*

- **Freshman**:

  - Computer Fundamentals & Programming - *C & Python Programming Language*
  - Mathematics - *Linear Algebra, Calculus*

EXPERIENCE

- **Mahindra Ecole Centrale** Hyderabad, India
  Sophomore *Dec. 2018 - Current*

  - **[Ongoing] Deep Reinforcement Learning & Transfer Learning Research - Individual under guidance**: Conducting research on compositionality and causality in Deep Reinforcement Learning, specifically targeting transfer learning problems under the guidance of Prof. Achal Agarwal

- **Mahindra Ecole Centrale** Hyderabad, India
  Freshman *Aug. 2017 - May, 2018*

  - **sptm - Individual**: Developed and published a python package on PYPI called sptm (Sentence Prediction using Topic Modeling), Experimented and tested various Topic Modeling algorithms (LDA, LSA, NMF & TFIDF) and other vector models such as lda2vec, doc2vec and word2vec, Worked under Anupam Mediratta as a summer intern
    * *Language: Python*
    * *Libraries: sklearn, gensim, MALLET, lda2vec, tensorflow, spacy, nltk, Numpy, matplotlib*
  - **CineLog - Team(2)**: Developing an Intelligent and Adaptive Framework to enable Multiplexes predict opening day sales of a movie & optimize schedule to maximize profits both real-time and in near-future; designed and developed LSTM Networks, Sentiment Analysis and core RNN
    * *Language: Python, golang*
    * *Libraries: Tensorflow, Pandas, Numpy, matplotlib, sklearn, lstmpredictor, imdbpie, googleapiclient, request, python-twitter*
  - **Harmonize - Team(3)**: Developed a Proof of Concept of a decentralized blockchain based Music Publishing & Sharing Platform; designed and developed core blockchain and back-end services
    * *Language: golang*

* * Libraries: aws-sdk-go, websocket
  * ○ **oWatcher - Individual**: Developed a Discord bot to display detailed in-game performance statistics of a players in Overwatch by Blizzard Entertainment
    * * Language: NodeJS
    * * Libraries: discord.io, winston, OWAPI

* **AECS Maaruti Magnolia Pre University College**   Bangalore, India
  High School Student   *Jun. 2015 - March. 2017*
  * ○ **Research in Video Compression Algorithms - Team(2)**: Worked alongside Prof. Chandrashekar Vaidhyanathan, Contributions included to algorithm design, implementation and testing; Involved a lossless compression scheme that can be extended to both Near-Lossless and Lossy compression
    * * Language: C, R, Python
    * * Libraries: ffmpeg, Libtiff, bnlearn, gRain

* **Delhi Public School - East**   Bangalore, India
  Middle School Student   *Jun. 2013 - March. 2015*
  * ○ **A Sensor Based System to effectively track Geriatric Care and Dementia patients**: Was responsible in developing the full stack solution, including micro-controller programming, Android application development and back-end services
    * * Languages: Python, Java, Processing, MySQL
    * * Libraries: NA

Awards & Achievements

* **2018 - Pragyan Hackathon, Bangalore, India - *Special Mention***: Showcased an Adaptive Movie Scheduling Framework for Multiplexes using RNN's, LSTM, Sentiment Analysis and Machine Learning
* **2017 - Brave Hackathon, Hyderabad, India - *First Place***: Showcased a Decentralized Music Publishing and Sharing Platform built over 24 Hours
* **2017 - Intel International Science and Engineering Fair (ISEF), Los Angeles, United States - *Finalist***: Showcased a research project titled - A Lossless Video Compression Technique Using Bayesian Networks and Entropy Coding
* **2017 - Intel Initiative for Research and Innovation in Science (IRIS), Pune, India - *Grand Award Winner, Finalist***: Showcased a research project titled - A Lossless Video Compression Technique Using Bayesian Networks and Entropy Coding
* **2015 - Intel Initiative for Research and Innovation in Science (IRIS), Bangalore, India - *Finalist***: Showcased a research project on am Efficient Thermoelectric Refrigeration System
* **2014 - Open European Championship FIRST Lego League, Mannheim, Germany - *Most Innovative Solution***: Showcased a research project on the Utilization of T2 Bacteriophages to fight Food Contamination
* **2013 - FIRST Lego League (FLL), Regionals, Bangalore, India - *Best Robot Design***: Showcased a robot design that was highly efficient while still remaining simplistic
* **2012 - Intel Initiative for Research and Innovation in Science (IRIS), Chandigarh, India - *Finalist***: Showcased a solar cooker design that was inspired from the Parabolic and Box type designs

Technical Skills

* **Languages**: Python, C, R, C++, Golang

* **Libraries**: libtiff, ffmpeg, ImageMagik, gensim, MALLET, TensorFlow, sklearn

* **Platforms**: AWS, GCP, Linux(x86, x86_64), Raspberry Pi, Arduino

Positions of Responsibility

- **Vice President** — Hyderabad, India
  Enigma, The Computer Science Club at Mahindra Ecole Centrale — *May 2018*

- **Student Member** — Intl.
  ACM & IEEE Student Member — *Since 2018*

- **Member** — Intl.
  Sigma Xi Member — *Since 2017*

- **Organizing Committee Member** — Hyderabad, India
  Centrale Connect Conclave — *2018*

Conferences, Seminars & Workshops

- **International Conference on Machine Learning and Data Science** — Hyderabad, India
  Attended two day conference held at Mahindra Ecole Centrale — *Dec 2018*

- **MECHacks Hackathon** — Hyderabad, India
  Organized a 36 hour Hackathon as a part of Aether, the annual fest at Mahindra Ecole Centrale — *November 2018*

- **Generative Art Workshop** — Hyderabad, India
  Conducted an introductory session on Generative Art as a part of the Computer Sci. Club — *November 2018*

- **Photo-Realistic Rendering Workshop** — Hyderabad, India
  Conducted a session on Photo-Realistic Rendering as a part of the Computer Sci. Club — *November 2018*

- **Mozilla Hackathon** — Hyderabad, India
  Organized a 36 hour Hackathon — *October 2018*

- **Python Workshop** — Hyderabad, India
  Conducted a Python Workshop for fresher (First Year) as part of the Computer Sci. Club — *September 2018*

Extra-Curricular Activities

- **Swimming** — Bangalore & Hyderabad, India

  - **2017 - Current**: Member of the Mahindra Ecole Centrale College Swimming Team, represent the college at Inter-College Meets
  - **2015**: Participated in the FINIS State level Sub Junior/Junior Championship event – Freestyle, Butterfly & Individual Medley events
  - **2012-15**: Represented Delhi Public School Bangalore East School Swim Team in a number of inter-school swimming competitions. Secured additional credits in CBSE Board

- **Running** — Bangalore, India

  - **2015**: 1st Place in the 5 km 'Spirit of Wipro' marathon run (Open non-employee category); Timing: 21 mins

- **Music** — Bangalore, India

  - **2005-10**: Learnt playing Tabla (Indian percussion instrument). Cleared the Aadhya, Madya, Purna, 1st year and 2nd year exams conducted by 'Bangiya Sangeet Parishad', Rabindra Bharati University, Kolkata