

# Yudhik Agrawal

## Education

- 2016 - present **B.Tech & M.S (By Research) in Computer Science**, *International Institute of Information Technology*, Hyderabad.  
CGPA : **8.95/10 (B.Tech)**, **9.75/10 (M.S)**
- 2014 - 2016 **Senior Secondary**, CBSE, DAV Public School, Gurgaon, Haryana.  
Percentage: **95.0**
- 2012 - 2014 **Senior Secondary**, CBSE, Rotary Public School, Gurgaon, Haryana.  
CGPA: **10.0**

## Experience

- Jan'18 - **Research Assistant**, COGNITIVE SCIENCE LAB, IIIT-H.
- Present Currently working with Prof. Vinoo Alluri, on using music-induced movements to identify individual traits and also, improving song recommendation system.
- May'18 - **Research Assistant**, CENTER FOR VISUAL INFORMATION TECHNOLOGY, IIIT-H.
- July'20 Worked with Prof. Avinash Sharma, on 3D-Human Body Reconstruction and generating Temporally coherent Sequence of Human Action.
- May'20 - **Summer Analyst**, GOLDMAN SACHS, Bengaluru, India.
- June'20 Worked on **Data Ingestion Enhancements** in Data Pipeline Framework, and did further exploration which would benefit project in future.
- May'19 - **Research student**, ROBOTICS RESEARCH CENTER, IIIT-H.
- May'20 Worked with Prof. K. Madhava Krishna, on avoiding Drone Collisions by Path Planning after doing 3D reconstruction of the surrounding obstacles(eg. Humans) which need not be static.
- Monsoon'18- **Teaching Assistant**, IIIT-H.
- Spring'20 **Computer Programming | Optimization Methods | Graphics | Digital Signal Analytic and Apps.**  
Involves grading, making problem sets, taking lab sessions and tutorials for over 150 students.

## Publications

- WACV'21 GlocalNet: Class-aware Long-term Human Motion Synthesis**,  
*Neeraj Battan\**, ***Yudhik Agrawal\****, *Veeravalli Saisooryaao*, *Aman Goel*, *Avinash Sharma*  
We proposed a two-stage activity generation pipeline to synthesize a long-term (> 6000 ms) human motion trajectory across a large variety of human activity classes.
- ISMIR'20 Towards Multimodal MIR: Predicting individual differences from music-induced movement**,  
***Yudhik Agrawal***, *Samyak Jain*, *Emily Carlson*, *Petri Toivanen*, *Vinoo Alluri*  
We proposed a Machine-Learning model that predicts individual traits from music-induced movement patterns and further finds associations between dance movements and traits.
- 3DRW'19 HumanMeshNet: Polygonal Mesh Recovery of Humans**,  
ICCVW *Abhinav Venkat*, *Chaitanya Patel*, ***Yudhik Agrawal***, *Avinash Sharma*  
We proposed a multi-branch multi-task HumanMeshNet network that simultaneously regress to the template mesh vertices as well as body joint locations from a single monocular image.

## Projects

<b>Deep 3D-HM GUI</b>	Developed a Tk GUI toolkit which finds 3D mesh of a human body from a monocular RGB Image/Video using state-of-the-art Deep Learning network.
<b>Stack Overflow UserQuery</b>	Developed a search bar on top of the StackOverflow API which provides more relevant thread results based on the search and also re-order the answers based on various NLP techniques like text-similarity(USE), statistical analysis and semantic analysis.
<b>Amdocs Vidalysis</b>	Developed a Software-as-a-Service which can analyze/interpret the video, trimming relevant part of the video and can also search through video using image or text.
<b>Tic-Tac-Toe Bot</b>	Developed a bot capable of playing advanced version of Extreme Tic-Tac-Toe using alpha beta pruning, custom heuristics and zobrist hashing.
<b>Other Projects</b>	<ul style="list-style-type: none"><li>Twitter Sentimental Analysis including WordCloud and HeatMap</li><li><b>Various Games:</b> Tunnel Rush, League of Zelda(3D), Bomberman</li><li><b>Various Hackathons:</b> Megathon: Regional TOR, Codefundo: Disaster-Management</li><li><b>Computer Vision:</b> Image Quilting [SIGGRAPH] and Domain-invariant Image Repr. [ICLR]</li></ul>

## Achievements

<b>Amdocs'19</b>	Ranked <b>1st</b> in the Amdocs HackFest among more than 5000 teams that participated.
<b>Academics</b>	Dean's list awardee for excellence in academics, awarded to top 5% of the batch.
<b>Google AI</b>	Selected for the <b>Google AI Summer School, 2020</b> - Top 50 students in India.
<b>ACM-ICPC</b>	Member of team <b>Brahmasmi</b> which secured <b>35<sup>th</sup></b> Rank in 2019 online round.
<b>Sport Programming</b>	Codechef Handle: <u>yudhik</u> , Rating: <b>2075</b> (best). Codeforces Handle: <u>yudhik</u> , Rating: <b>1946</b> (best).
<b>Kickstart</b>	Secured rank <b>159</b> in Google Kickstart Round-F 2019.
<b>Alexa'18</b>	Ranked <b>3rd</b> in the Techgig Alexa CodeGladiator among more than 3000 teams that participated.
<b>JEE-MAINS</b>	Ranked 1285 in JEE Mains out of nearly 1.3 million students who appeared.

## Relevant Coursework

<b>Computer Science</b>	Statistical Methods in AI, Computer Vision, Data Structures, Algorithms, Optimization Methods, Graphics, Artificial Intelligence, Computer Programming, Operating Systems, Databases Systems, Distributed Systems, Music & Technology, Computer Architecture, IT Workshop, Mobile Robotics, System Design and Project, Advanced Computer Networks, Digital Signal Processing, Digital Image Processing, Principle of Information Security
<b>Mathematics</b>	Discrete Mathematics, Graph Theory, Group Theory, Differential Equations, Complex Analysis

## Technical Skills

<b>OS</b>	Linux, Windows
<b>Languages</b>	C, C++, Python, Bash, MATLAB, Java
<b>DL Libraries</b>	PyTorch, Tensorflow
<b>Web Tech</b>	Flask, jQuery, Javascript, Bootstrap, Django
<b>Miscellaneous</b>	AWS, Git, MySQL, OpenGL, Apache-Flink, ROR, Meshlab

## Positions of Responsibility

<b>Volunteer at ISMIR conference</b>	Oct'20 - Oct'20
<b>SysAdmin for Research Clusters</b>	Dec'18 - Present
<b>Programming Club Coordinator, IIIT-H</b>	Aug'18 - May'20