

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

- 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.
- ACCV'20 Class-aware Long-term Human Motion Synthesis,**
Under Review **Neeraj Battan, Yudhik Agrawal, Avinash Sharma**
We are proposing a two-stage activity generation method to synthesize a long-term (6000 ms) human motion trajectory across a large variety of human activity classes.
- 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

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| Deep 3D-HM GUI | 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. |
| Stack Overflow UserQuery | 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. |
| Amdocs Vidalysis | 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. |
| Tic-Tac-Toe Bot | Developed a bot capable of playing advanced version of Extreme Tic-Tac-Toe using alpha beta pruning, custom heuristics and zobrist hashing. |
| Other Projects | <ul style="list-style-type: none">Twitter Sentimental Analysis including WordCloud and HeatMapVarious Games: Tunnel Rush, League of Zelda(3D), BombermanVarious Hackathons: Megathon: Regional TOR, Codefundo: Disaster-ManagementComputer Vision: Image Quilting [SIGGRAPH] and Domain-invariant Image Repr. [ICLR] |

Achievements

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| Amdocs'19 | Ranked 1st in the Amdocs HackFest among more than 5000 teams that participated. |
| Academics | Dean's list awardee for excellence in academics, awarded to top 5% of the batch. |
| Google AI | Selected for the Google AI Summer School, 2020 - Top 50 students in India. |
| ACM-ICPC | Member of team Brahmasmi which secured 35th Rank in 2019 online round. |
| Sport Programming | Codechef Handle: <u>yudhik</u> , Rating: 2075 (best). Codeforces Handle: <u>yudhik</u> , Rating: 1893 (best). |
| Kickstart | Secured rank 159 in Google Kickstart Round-F 2019. |
| Alexa'18 | Ranked 3rd in the Techgig Alexa CodeGladiator among more than 3000 teams that participated. |
| JEE-MAINS | Ranked 1285 in JEE Mains out of nearly 1.3 million students who appeared. |

Relevant Coursework

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| Computer Science | 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 |
| Mathematics | Discrete Mathematics, Graph Theory, Group Theory, Differential Equations, Complex Analysis |

Technical Skills

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

Positions of Responsibility

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| SysAdmin for Research Clusters | Dec'18 - Present |
| Programming Club Coordinator, IIIT-H | Aug'18 - May'20 |
| Felicity: Gordian Knot'18 Problem Setter | Jan'18 - Apr'18 |