

Yudhik Agrawal

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Education

- 2016-present **B.Tech + MS in Computer Science**, *International Institute of Information Technology, Hyderabad*, CGPA : 8.84 .
- 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

- May-2018 **Research student, Center for Visual Information Technology, IIIT-H**, Currently working under Professor Avinash Sharma, on 3D Shape Analysis using Deep Learning - Reconstruction, Registration, Texture and Clothing Recovery.
- Spring 2019 **Teaching Assistant, Digital Signal Analytic and Application**, Involves grading, making problem sets and, taking lectures of a class of 140 students. .
- Monsoon 2018 **Teaching Assistant, Computer Programming**, The work involves explaining concepts of programming in tutorials and lab sessions for beginners.

Research

- 3DRW'19 ICCVW UnderReview** **HumanMeshNet: Polygonal Mesh Recovery of Humans**, 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.
- Ongoing Research **Prior based Unified Reconstruction of 3D Human Body and Hand Models**, with Dr. Avinash Sharma, Abhinav Venkat, Chaitanya Patel
A model based unified framework to learn the shape and pose of both, the body and the hand. Further, unlike contemporary 3D hand recovery where only pose estimation is done from monocular or egocentric cameras, we recover, both the 3D hand pose and shape, in the wild.
- Other Threads**
- 3D human reconstruction for future using temporal data
 - 3D human and cloth reconstruction using non-parametric model
 - High Quality 3D face mesh reconstruction

Projects

- 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.
Linux Mini Shell	Developed a Bash like terminal in C using Linux system calls which includes user-defined commands, piping and redirection and signal-handling.
Mini Dropbox	Implemented a threaded HTTP proxy server with LRU caching and mutex locks for multiple clients, implemented using python socket programming.
Other Projects	<ul style="list-style-type: none"> Twitter Sentimental Analysis including WordCloud and HeatMap Various Games: Tunnel Rush, Bomberman, js13k, League of Zelda(3D), Pacman-Killer Various Hackathons: Megathon: Regional TOR, Codefundo: Disaster-Management Computer Vision: Image Quilting [SIGGRAPH] and Domain-invariant Image Representations [ICLR]

Achievements

Amdocs'19	Ranked 1st in the Amdocs HackFest among more than 5000 teams that participated.
Sport Programming	Codechef Handle: <u>yudhik</u> , Rating: 2075 (best). Codeforces Handle: <u>yudhik</u> , Rating: 1743 (best).
Google Kickstart	Secured rank 292 in Google Kickstart Round-D 2019.
Academics	Dean's list awardee for excellence in academics, awarded to top 5% of the batch.
Alexa'18	Ranked 3rd in the Techgig Alexa CodeGladiator among more than 3000 teams that participated.
JEE-MAINS 2016	Ranked 1285 out of 1.1 million who participated

Relevant Coursework

Computer Science	Statistical Methods in AI, Computer Vision, Optimization Methods, Digital Signal Processing, Graphics, Artificial Intelligence, Data Structures, Computer Programming, Operating Systems, Computer Architecture, IT Workshop, Databases Systems, Data Analytics*, Distributed Systems*, System Design and Project, Algorithms, Advanced Computer Networks, Digital Image Processing,
Mathematics	Discrete Mathematics, Graph Theory, Group Theory, Differential Equations, Complex Analysis * Courses in the current semester

Technical Skills

OS	Linux, Windows
Languages	C, C++, Python, Bash, MATLAB, Java(Basic)
DL Libraries	PyTorch, Tensorflow
Web	HTML, CSS, Javascript, Flask, Django
Others	AWS, Git, MySQL, OpenGL, ROR, Racket, Meshlab

Positions of Responsibility

SysAdmin for Research Clusters	Dec'18 - Present
Programming Club Coordinator, IIIT-H	Aug'18 - Present
Felicity: Gordian Knot'18 Problem Setter	Jan'18 - Apr'18
Felicity: Zombie Zone Coordinator	Sept'17 - Apr'18
Student Mentor, IIIT-Hyderabad	Aug'17 - Apr'18