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Yudhik Agrawal

Education

- 2016-2021 (expected) **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 -present **Research Assistant, 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.
- May-2018 -present **Research Student, Robotics Research Center, IIIT-H**, Currently working under Dr. 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 2018 **Teaching Assistant, Computer Programming**, The work involves explaining concepts of programming in tutorials and lab sessions for beginners.
- Spring 2019-Monson 2020 **Teaching Assistant, Graphics and Digital Signal Analytic and Application**, Involves grading, making problem sets and, taking lectures of a class of 140 students. .

Publications

- 3DRW'19 **HumanMeshNet: Polygonal Mesh Recovery of Humans**,
ICCVW 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

- 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**
 - Twitter Sentimental Analysis including WordCloud and HeatMap
 - **Various Games**: Tunnel Rush, League of Zelda(3D), Bomberman
 - **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: [yudhik](#), Rating: **2075**(best).
Codeforces Handle: [yudhik](#), Rating: **1834**(best).
- Google Kickstart** Secured rank **159** in Round-F Google Kickstart 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, Data Structures, Optimization Methods, Digital Signal Processing, Graphics, Artificial Intelligence, Computer Programming, Operating Systems, Computer Architecture, IT Workshop, Databases Systems, Mobile Robotics*, 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, 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