Chaitanya Patel

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EDUCATION

Stanford University PhD Student in Computer Science	$\begin{array}{c} 4.1/4\\ \text{Sept } 2021-\text{Present} \end{array}$
IIIT-Hyderabad, India Bachelor of Technology (with Honours) in Computer Science and Engineering	Batch Rank 1, 9.85/10 Aug 2015 – May 2019
Experience	
 Meta Reality Lab Research Scientist Intern Mentored by Shih-En Wei and Jason Saragih. Worked on fast registration of photorealistic 3D avatars for VR facial animatic 	Jun 2023 – Sept 2023 Pittsburgh, USA on.
 Stanford University Research Assistant Mentored by Ehsan Adeli and Juan Carlos Niebles. Working on human activity understanding from long form videos by leveraging 	Sept 2021 – Present Stanford, USA g 3D cues.
 Google Research India Pre-doctoral Researcher (Brain Resident) Mentored by Dr. Varun Gulshan Worked on Self-supervised learning methods to leverage large amount of satelli improve downstream ML remote sensing tasks like land-cover mapping, riverber 	Jan 2020 – Sept 2021 Bangalore, India ite imagery data to ed segmentation.
RVH lab, Max Planck Institute for Informatics Research Intern	May 2019 – Nov 2019 Saarbruecken, Garmany
 Mentored by Dr. Gerard Pons-Moll Developed a fast data-driven garment model which is realistic, differentiable an Simulated dataset of real 3D garments on people using physics-based simulatic Our work <i>TailorNet</i> accepted for Oral presentation at CVPR 2020. – Project 	nd easy to animate. on. Page
 CVIT, IIIT Hyderabad Honours Research Student Mentored by Dr. Avinash Sharma Worked on textured 3D reconstruction using calibrated system of Microsoft Ki Worked on deep learning methods for real-time 3D reconstruction of human box 	May 2017 – Apr 2019 Hyderabad, India nect sensors. – Link ody from single image.
Publications	
1. Chaitanya Patel, Shaojie Bai, Te-Li Wang, Jason Saragih, Shih-En Wei. "Fast Photorealistic Avatars for VR Facial Animation" — Project Page	t Registration of
2. Chaitanya Patel [*] , Shashank Sharma [*] , Varun Gulshan. "Evaluating Self and S for Remote Sensing Segmentation Tasks" — ArXiv	Semi-Supervised Methods
3. Chaitanya Patel [*] , Zhouyingcheng Liao [*] , Gerard Pons-Moll. "Tailornet: Predi Function of Human Pose, Shape and Garment Style" CVPR 2020 ORAL — Pr	cting Clothing in 3D as a oject Page

4. Abbhinav Venkat, **Chaitanya Patel**, Yudhik Agrawal, Avinash Sharma. "HumanMeshNet: Polygonal Mesh Recovery of Humans" ICCV Workshop 3DRW 2019 — Project Page

* Equal Contribution

ACHIEVEMENTS

- Institute and Program Gold Medal of IIIT-H $1^{\rm st}$ Rank in the batch with GPA 9.85 / 10 .
- Dean's List 1 at IIIT-H top 5% in all semesters of Bachelors.
- + Rank 34 in ACM ICPC 2018 India online round.
- Rank 56 in JEE Mains 2015 among 1.3 million students.
- Rank 1 in Gujarat State Education Board High School Exam among 80k students.

TECHNICAL SKILLS

Languages: Python, C/C++, Matlab, Bash, HTML/CSS, JavaScript Libraries: TensorFlow, PyTorch, Keras, Matplotlib Frameworks & Tools: Git, LATEX, OpenGL, WebGL, Blender, Meshlab, Django

Relevant Courses

At Stanford	Deep Learning for Computer Vision (cs231n), Deep Generative Models (cs236)
	Probabilistic Graphical Models (cs228), Convex Optimization (ee364a),
	ML under Distribution Shift (cs329d), Machine Learning with Graphs (cs224w)
Machine Learning	Statistical Methods in AI, Topics in ML, Optimization Methods
Vision & Graphics	Computer Vision, Digital Image Processing, Computer Graphics
Computer Systems	Compilers, Operating Systems, Distributed Systems, Database Systems, Networks

TEACHING

StanfordProbabilistic Graphical Models (cs228), Computational Logic (cs157)IIIT-HyderabadComputer Programming, Data Structures, Statistical Methods in AI, Computer Vision

Other Projects

Image Matching with Spectral Analysis Implemented Joint Spectral Correspondence proposed in a CVPR 2013 paper to match the images with disparate appearance arising from dramatic illumination Link Relative Attributes for Zero Shot Learning Implemented Visual Relative Attributes and Rank SVM for image classification based on ECCV-2011 best paper 'Relative Attributes' Link Consistent Bellman Operators Implemented optimality preserving consistent Bellman operators proposed in 'Increasing the Action Gap' and compared against DQN Link Visual Attention for Image Captioning matched state-of-the art accuracy on MSCOCO - Link **Content Aware Image Resizing** using Seam Carving algorithm – Link Bloxorz (3D Game) similar to Miniclip Bloxorz implemented in OpenGL 3.0 - Link VAE for Image Generation generative model and latent space visualization - Link AI Agent for Ultimate Tic-Tac-Toe using Monte Carlo Search with Upper Confidence Bound - Link **Reinforcement Learning Algorithms** implemented Policy gradient, DQN, Double-DQN – Link **Compiler and Interpreter** using Flex scanner, Bison parser and LLVM code generator – Link **Data Structures** 2D Segment-trees, 2-3 Trees, AVL Trees, Heaps, Tries implemented in C – Link **IIIT Placement Portal** A Django portal used by students and recruiters for job-placements of 2017 See my GitHub for more projects

Algorithmic Coding

- ACM ICPC: Rank 84 in India Regionals and Rank 34 in India Online round.
- Google Kickstart: World Rank 82 in Round-G 2017 and World Rank 98 in Round-C 2018.
- Codechef 5-star profile and Codeforces Expert profile with max rating of 1844.