

# Meghana Reddy Ganesina

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MS student at Carnegie Mellon University seeking an internship in Computer Vision

## Education

<b>Carnegie Mellon University — School of Computer Science</b>	Pittsburgh, PA
<i>Master of Science in Computer Vision — GPA: 4.11/4.0</i>	<i>Dec 2022</i>
<b>University of Chicago — Booth School of Business</b>	Chicago, IL
<i>Summer Business Scholars Program: Non-degree — GPA: 4.0/4.33</i>	<i>Aug 2018</i>
<b>National Institute of Technology Warangal</b>	Warangal, India
<i>Bachelor of Technology in Electronics &amp; Communication Engineering— 8.66/10 (Merit Scholarship)</i>	<i>May 2018</i>
<b>Selected Coursework:</b> Computer Vision (16-720), Machine Learning (10-601), Data Structures	

## Experience

<b>CMU Argo AI Center for Autonomous Vehicle Research</b>	Pittsburgh, PA
<i>Research Assistant, Advisor: Prof Deva Ramanan</i>	<i>Oct 2021 – Present</i>
<ul style="list-style-type: none"><li>Working on novel continual learning approach with active sub-group object discovery for LiDAR panoptic segmentation.</li></ul>	
<b>Samsung Semiconductors India R&amp;D</b>	Bangalore, India
<i>Associate Staff Engineer   Senior Engineer</i>	<i>Jun 2018 – Jun 2021</i>
<ul style="list-style-type: none"><li>Published low power design verification methodology in Cadence Live 2021 for virtual reality based silicon which resulted in 40% efficiency in project timelines. Received Best Employee Award.</li><li>Designed testbench methodology and provided silicon bring-up support until production for LPDDR4x DRAM interface in Advanced Driver-Assistance System based silicon for vision application.</li><li>Developed a GUI based debugger to track ARM protocol-based simulations. Published in Cadence Live 2019.</li></ul>	
<b>National Institute of Technology Warangal</b>	Warangal, India
<i>Undergraduate research</i>	<i>Aug 2018 – Dec 2018</i>
<ul style="list-style-type: none"><li>Proposed a ResNet based segmentation-free classification method for whole slide images of cervical cell clusters with an accuracy of 96.37% on SIPakMeD dataset.</li><li>Explored the features (like size of peri nuclear cavity, cytoplasm and nucleus) learnt by the network by applying PCA on the penultimate layer of the network and explored visual saliency using Grad-CAM.</li><li>Analyzed the performance of the network on unbalanced datasets through metrics like F-score, Sensitivity, Specificity and H-mean in comparison to previous baselines (AlexNet, VGG-16, DeepPap).</li></ul>	
<b>Indian Institute of Science — Computational Intelligence Lab</b>	Bangalore, India
<i>Summer Research Intern, Advisor: Prof S.N Omkar</i>	<i>May 2016 - Aug 2016</i>
<ul style="list-style-type: none"><li>Proposed a disguised face identification pipeline using Spatial Fusion Deep CNN for facial keypoints detection and analyzed the star-net structure formed by the keypoints to detect the subject with an accuracy of 78.4%.</li><li>Analyzed the pipeline's keypoint detection performance with respect to variations in occlusion, background clutter and presence of multiple subjects in the images.</li><li>Annotated facial key points dataset with 10 disguises on 25 subjects and variations in complexity in backgrounds to facilitate further research.</li><li>Media coverage: Featured in Discovery Seeker, <a href="#">TED talk</a>, <a href="#">Cover of Economist</a>.</li></ul>	

## Publications

- Automatic Classification of Whole Slide Pap Smear Images Using CNN With PCA Based Feature Interpretation. **Meghana Ganesina\*\***, & Kiran, G. V.\*\*. **CVPRW 2019** (\*\* indicates equal contribution) [Link](#)
- Disguised face identification (DFI) with facial keypoints using spatial fusion convolutional network. Singh, A., Patil, D., **Meghana Ganesina.**, & Omkar, S. N. **ICCVW 2017** (Citations: 50) [Link](#)
- Challenges in power aware verification with hardware power controller & novel approach to harness low power functional coverage for complex SoC. **Meghana Ganesina.**, Harshal.K. Cadence Live 2021.

## Technical Skills

**Languages:** C++, C, Python, Verilog, System Verilog

**Frameworks & libraries:** PyTorch, TensorFlow, Pandas, NumPy, Matplotlib