

## Purva Tendulkar

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<b>RESEARCH INTERESTS</b>	<i>Deep Learning, Vision and Language, Reinforcement Learning Creative AI, Music Information Retrieval</i>	
<b>EDUCATION</b>	<b>School of Interactive Computing, Georgia Tech</b> <i>M.S. in Computer Science</i> Advised by Prof. Devi Parikh CGPA : 4.0/4.0	2018-Present
	<b>College of Engineering Pune (COEP)</b> <i>B.Tech. in Computer Science</i> CGPA : 9.14/10.0	2014-2018
<b>PUBLICATIONS</b>	<b>SQuINTing at VQA Models: Interrogating VQA Models with Sub-Questions</b> <i>IEEE Conference on Computer Vision and Pattern Recognition (CVPR) 2020</i> R. Selvaraju, <u>P. Tendulkar</u> , D. Parikh, E. Horvitz, M. Ribeiro, B. Nushi, E. Kamar  <b>Trick or TReAT: Thematic Reinforcement for Artistic Typography</b> <i>International Conference on Computational Creativity (ICCC) 2019 (Oral)</i> <u>P. Tendulkar</u> , K. Krishna, R. Selvaraju, D. Parikh	
<b>AWARDS &amp; RECOGNITION</b>	<b>Winner:</b> Best Presentation Award at ICCV'19 <b>Recipient:</b> Pratibha Eaton Excellence Award for women engineering students (2017) <b>Finalist:</b> Computer and Science Quiz organized by Computer Society of India (2011) <b>Recipient:</b> Maharashtra Talent Search Award (2009)	
<b>RELEVANT COURSES</b>	<b>Graduate Coursework</b> • Deep Learning • Machine Learning • Natural Language Processing • Computer Vision • Introduction to Graduate Algorithms <b>Selected Undergraduate Coursework</b> • Natural Language Processing • Linear Algebra • Experimental Design and Data Analysis • Data Structures • Design and Analysis of Algorithms • Discrete Structures and Graph Theory • Computer Algorithms in Signal Processing • Advanced Unix Programming	
<b>EXPERIENCE</b>	<b>AiBee Corp, Palo Alto</b> <i>Research Intern, mentored by Chunhui Gu and Juan Carlos Niebles</i> Worked on using recurrent neural networks to analyse trajectories of people in a shopping mall in order to detect events and perform intentions classification.	May 2019-Aug 2019
	<b>Visual Intelligence Lab, Georgia Tech</b> <i>Research Assistant, mentored by Prof. Devi Parikh</i> Currently working on developing personable AI that humans can like, trust, teach and learn from – including creative AI, vision & language and reinforcement learning.	Aug 2018-ongoing
	<b>CPS Research Group, NTU</b> <i>Research Assistant, mentored by Prof. Arvind Easwaran</i> Worked on analysing notorious security attacks on Cyber Physical Systems (CPSs) and performed extensive vulnerability analysis in order to improve system design.	May 2017-Aug 2017

**IIT, Bombay**

May 2016-Aug 2016

*Software Developer, mentored by Prof. Varsha Apte*

Worked on EvalPro, a Django webapp being used in the CSE Department of IIT Bombay for handling computer related tests, assignments and automated evaluation.

## **SELECTED PROJECTS**

### **Dancing Agents**

*Mentored by Prof. Devi Parikh, Dr. Ani Kembhavi and Abhishek Das*

We explore the learning of primitive reward functions that can lead to the emergence of interesting dance in an RL agent, given an input signal like music. We analyse the minimum number of specifications required to generate interesting dance and explore notions of creativity in dance.

### **Blind Image Dehazing**

*Mentored by Yuval Bahat and Kalpesh Krishna*

Implemented the ICCP 2016 paper Blind Image Dehazing Using Internal Patch Recurrence. Improved the method for selecting pairs of image patches for blind dehazing as compared to the original brute force method. Achieved approximately 20x better speed for optimization in PyTorch as compared to the original MATLAB implementation.

### **Punny Captions**

Implemented the NAACL 2018 paper Punny Captions : Witty Wordplay in Image Descriptions which generates punny captions for a boring image.

## **REFERENCES**

- Prof. Devi Parikh, Georgia Tech (email: parikh@gatech.edu)
- Dr. Aniruddha Kembhavi, AI2 (email: anik@allenai.org)
- Dr. Chunhui Gu, AiBee Corp. (email: chgu@aibee.com)
- Dr. Juan Carlos Niebles, Stanford University (email: jniebles@cs.stanford.edu)
- Prof. Arvind Easwaran, NTU (email: arvinde@ntu.edu.sg)