Arjun **Chandrasekaran**

Computer Vision · Natural Language Processing · Human Behavior · Virtual Human Avatars

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Education

Georgia Tech — *Atlanta, GA, USA*

PhD in Computer Science (Advisor: Devi Parikh) — *Jan. 2017 - Dec. 2019*

Dissertation: Towards natural Human-AI interactions in Vision and Language

Virginia Tech (transferred to Georgia Tech) — *Blacksburg, VA, USA*

PhD in Computer Engineering (Advisor: Devi Parikh) — *Aug. 2014 - Dec. 2016*

- Research on computational models for visual humor and temporal common sense.

Bangalore Institute of Technology — *Bangalore, India*

B. Eng. in Electronics and Communication Engineering — *Sep. 2009 - Mar. 2013*

- Design and implementation of a VLSI based video decoder based on the H.264 video encoding standard.

Employment

Max Planck Institute for Intelligent Systems — *Tübingen, Germany.*

Postdoctoral Researcher, with Michael Black — *Jan. 2020 - Now*

- Modeling the semantics of human movement – human actions, interactions, and emotions.

Robert Bosch (RBEI) — *Bangalore, India*

Associate Software Engineer, Computer Vision Team — *Aug. 2013 - July 2014*

- Testing driver assistance functions like lane detection, road sign recognition, pedestrian detection, etc. on a camera ECU.

Visiting Positions

Indiana University — *Bloomington, USA*

Visiting scholar, with Chen Yu and David Crandall — *Summer 2019*

- Modeling child learning from parent-child interactions captured via head-mounted cameras and parent speech.

CurAI — *Palo Alto, USA*

Research Intern, with Anitha Kannan — *Summer 2018*

- Question Answering in medical domain and Information Extraction to build a Knowledge Graph.

Facebook AI Research — *Menlo Park, USA*

Research Intern, with Devi Parikh — *Summer 2017*

- Modeling aspects of personality from reddit data.

Toyota Technological Institute — *Chicago, USA*

Research Intern, with Mohit Bansal — *Summer 2016*

- Modeling “temporal common sense” in everyday events, and generating witty image captions.

Sahyogee Tech Solutions — *Bangalore, India*

Engineering Intern, with Anand Udupa — *Summer 2012*

- Designing and testing analog circuits using the (then) newly developed Verilog AMS (Analog and Mixed Mode).

Publications

How Much Coffee Was Consumed During EMNLP 2019? Fermi Problems: A New Reasoning Challenge for AI *EMNLP*
Conference on Empirical Methods in Natural Language Processing *Nov. 2021*
A. Kalyan, A. Kumar, **A. Chandrasekaran**, A. Sabharwal, P. Clark

BABEL: Bodies, Action and Behavior with English Labels *CVPR*
IEEE/CVF Conference on Computer Vision and Pattern Recognition *June 2021*
A. R. Punnakkal*, **A. Chandrasekaran***, N. Athanasiou, A. Quiros-Ramirez, M. J. Black

Active domain adaptation via clustering uncertainty-weighted embeddings *ICCV*
IEEE/CVF International Conference on Computer Vision *Oct. 2021*
V. Prabhu, **A. Chandrasekaran**, K. Saenko, J. Hoffman

A computational model of early word learning from the infant's point of view *CogSci*
Annual Conference of the Cognitive Science Society *July 2020*
S. Tsutsui, **A. Chandrasekaran**, M. A. Reza, D. Crandall, C. Yu

Do explanation modalities make VQA models more predictable to a human? *EMNLP*
Conference on Empirical Methods in Natural Language Processing *Nov. 2018*
A. Chandrasekaran*, V. Prabhu*, D. Yadav*, P. Chattopadhyay*, D. Parikh

Punny Captions: Witty Wordplay in Image Descriptions *NAACL*
North American Chapter of the Association for Computational Linguistics *June 2018*
A. Chandrasekaran, D. Parikh, M. Bansal

Evaluating Visual Conversational Agents via Cooperative Human-AI Games *HCOMP*
Conference on Human Computation and Crowdsourcing *Oct. 2017*
P. Chattopadhyay, D. Yadav, V. Prabhu, **A. Chandrasekaran**, A. Das, S. Lee, D. Batra, D. Parikh

SortStory: Sorting Jumbled Images and Captions into Stories *EMNLP*
Empirical Methods in Natural Language Processing *Nov. 2016*
H. Agrawal*, **A. Chandrasekaran***, D. Batra, D. Parikh, M. Bansal

We Are Humor Beings: Understanding and Predicting Visual Humor *CVPR*
IEEE Conference on Computer Vision and Pattern Recognition *July 2016*
A. Chandrasekaran, A. K. Vijayakumar, S. Antol, M. Bansal, D. Batra, C. L. Zitnick, D. Parikh

* Denotes equal contribution.

Preprints

LocATe: End-to-end Localization of Actions in 3D with Transformers
ArXiv *Mar. 2022*
J. Sun, B. Zhou, M. J. Black, **A. Chandrasekaran**

It takes Two to Tango: Towards Theory of AI's Mind
ArXiv *Apr. 2017*
A. Chandrasekaran*, D. Yadav*, P. Chattopadhyay*, V. Prabhu*, D. Parikh

Awards

Reviewing

2021 **Outstanding reviewer**, Computer Vision and Pattern Recognition (CVPR). *Virtual conference*
2018 **Outstanding reviewer**, Neural Information Processing Systems (NeurIPS). *Montreal, Canada*

Talks

- 'Talk & Talk' seminar series at MPI for Intelligent Systems, Tübingen, Germany (remote talk). 2021.
- Mercedes-Daimler Research, Bangalore, India (remote talk). 2021.
- Perceiving Systems Dept. at MPI for Intelligent Systems, Tübingen, Germany. 2019.
- Dept. of Psychological and Brain Sciences, Indiana University, Bloomington, USA. 2019.
- Laboratory of Sensorimotor Research, National Institutes for Health (NIH), Bethesda, USA. 2019.
- Invited talk at the 'Vision and Language' course at Georgia Tech, Atlanta, USA. 2018.
- Institute for Critical Technology and Applied Science (ICTAS) seminar series at Virginia Tech, Blacksburg, USA. 2017.
- Mid-Atlantic Computer Vision (MACV) Workshop at Johns Hopkins University, Baltimore, USA. 2017.
- CVPR Spotlight talk (on Visual Humor) at Las Vegas, USA. 2016.

Reviewing

- **2022** CVPR, ICRA
- **2021** CVPR, NeurIPS, AAAI
- **2020** ICRA, CogSci
- **2019** ICML, NAACL, NCVPRIPG (India)
- **2018** CVPR, ICML
- **2017** CVPR, NIPS

Advising

Current

- Darsh Kaushik. Intern (B. Tech. at NIT Silchar, India).

Past

- Jiankai Sun. Intern (MS at Chinese University of Hong Kong → PhD at Stanford University).
- Mayank Lunayach. Intern (B. Tech. at IIT Kanpur, India → MS at Georgia Tech).

Teaching

CS 4476: Introduction to Computer Vision. *Georgia Tech*

Head Teaching Assistant. Instructor: Devi Parikh. *Fall 2018*

CS 8803: Computer Vision and Language *Georgia Tech*

Teaching Assistant. Instructor: Devi Parikh. *Fall 2017*