

Karan Desai

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EDUCATION

- University of Michigan** 2019 - (expected 2024)
Ph.D. in Computer Science and Engineering
 Advisor: Justin Johnson
- Indian Institute of Technology, Roorkee** 2014 - 2018
B.Tech. in Electrical Engineering, Minors in Computer Science

INTERNSHIPS

- Facebook AI Research, New York** May 2021 - Aug 2021
With Ishan Misra and Laurens van der Maaten
 Developing open-world segmentation models that learn from cheap scribble and language annotations.
- Georgia Institute of Technology** Jul 2018 - Jul 2019
With Devi Parikh and Dhruv Batra
 Developed the nocaps benchmark for image captioning (*published in ICCV 2019*).
 Developed Probabilistic Neural-symbolic Models for visual question answering (*published in ICML 2019*).
 Co-organized first two Visual Dialog Challenges (*in ECCV 2018, CVPR 2019*).
- Google Summer of Code** May 2017 - Sep 2017
The OpenCV Foundation
Engineering Division, Bangalore
 Worked on `tiny-dnn` – OpenCV's deep learning library in C++. Developed model-zoo and optimized the computational graph representation.
- Goldman Sachs** May 2017 - Jul 2017
 Developed tools for modeling graphical data to support production management across the firm.
- Google Summer of Code** Apr 2016 - Aug 2016
Temperature and Radioactive Diffusion in Supernovae (TARDIS)
 Developed an integration testing framework for automated failure reports of analysis tests.

PUBLICATIONS

- RedCaps: Web-curated image-text data created by the people, for the people**
 Karan Desai, Gaurav Kaul, Zubin Aysola, Justin Johnson
NeurIPS 2021 (First Track on Datasets and Benchmarks) [\[redcaps.xyz\]](http://redcaps.xyz)
- VirTex: Learning Visual Representations from Textual Annotations**
 Karan Desai, Justin Johnson
CVPR 2021
- CASTing Your Model: Learning to Localize Improves Self-Supervised Representations**
 Ramprasaath Selvaraju*, Karan Desai*, Justin Johnson, Nikhil Naik
CVPR 2021
- Probabilistic Neural-symbolic Models for Interpretable Visual Question Answering**
 Ramakrishna Vedantam, **Karan Desai**, Stefan Lee, Marcus Rohrbach, Dhruv Batra, Devi Parikh
ICML 2019 (Long Oral, Top 4.2%)
- nocaps: novel object captioning at scale**
 Harsh Agrawal*, Karan Desai*, Yufei Wang, Xinlei Chen, Rishabh Jain, Mark Johnson, Dhruv Batra, Devi Parikh, Stefan Lee, Peter Anderson
ICCV 2019 [\[nocaps.org\]](http://nocaps.org)

6. Continual Reinforcement Learning in 3D Non-Stationary Environments

Vincenzo Lomonaco, Karan Desai, Eugenio Culurciello, Davide Maltoni
CVPR-Workshops 2020

PROFESSIONAL ACTIVITIES

Conference Reviewing

CVPR (2021-22), NeurIPS (2021), ICCV (2021), ECCV (2020)

Workshop and Challenge Organization

Third Visual Dialog Challenge	CVPR 2020
Fourth Visual Question Answering and Dialog	CVPR 2019
Second Visual Dialog Challenge	CVPR 2019
First Visual Dialog Challenge	ECCV 2018

Open Source Involvement

[cloud-cv] Google Summer of Code mentor.	2018
[tiny-dnn] Major contributor during and after Google Summer of Code.	2017
[joblib] Major contributor for joblib library.	Nov 2016 - Feb 2017

Undergraduate Teaching Assistant: Electrical Sciences Spring 2018

Mentor: Student Mentorship Program IITR, mentored 12 first year undergraduate students. 2017,2018

OPEN SOURCE PROJECTS

Visual Dialog Challenge starter code Summer 2018

[github.com/batra-mlp-lab/visdial-challenge-starter-pytorch]

Starter code for participants of Visual Dialog challenges (2018,19,20), using PyTorch. **(150+ stars)**

Trianglify Android Library [github.com/mdg-iitr/trianglify] Spring 2017

Android library to generate views using delaunay triangulation algorithm. **(250+ stars)**

yolog [github.com/kdexd/yolog] Fall 2016

Command line tool showing compact git commit log with customizable themes. **(300+ stars)**

AWARDS

CVPR Outstanding Reviewer 2021

Google Summer of Code Travel Scholarship Fall 2018

To attend the Google Summer of Code mentor summit conducted at Google HQ, as a member of the Cloud-CV Organization.

Chief Minister Scholarship 2014-2018

Supported nearly 50% of undergrad tuition. Awarded to top-5 percentile students of the state (among 100K+ students), by the Gujarat State Government.

Bronze Medal, Inter IIT Tech Meet - IIT Kanpur 2017

National Finalist, Build the Shield CTF 2016

Ranked 33 among 500+ teams on national leaderboard of the *Capture the Flag* security contest organized by Microsoft India.

EXTRA CURRICULAR

Co-Founder: Vision and Language Group IITR [vlg.iitr.github.io].

Secretary: Mobile Development Group IITR [mdg.iitr.ac.in].

Student Chair: Electrical Engineering Department Academic Program Committee.