Deshraj Yadav

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Education

- **Georgia Tech** — Atlanta, GA
  Master of Science in Computer Science; Current GPA: 4.0/4.0 — *Aug. 2017 – Dec. 2018 (Expected)*
- **JSS Academy of Technical Education** — Noida, India
  Bachelor of Engineering in Computer Science and Engineering; Aggregate: 78% with Hons. — *Aug. 2012 – Jun. 2016*

Fellowship and Awards

- **Snap Research Scholarship recipient**, 2017
- Winner, **VT Hacks**, Virginia Tech, 2016
- Travel Scholarship for **Google Summer of Code Mentor Summit 2016 and 2017**
- **National Means Cum-Merit Scholarship** recipient (2009 - 2012)
- **Prime Minister Scholarship Scheme** recipient (2012 - 2016)
- Winner, **Cassiopeian Wars (Windows Mobile App. Development Hackathon)**, 2014

Work Experience

- **Snap Inc.** — Los Angeles, CA
  Research Intern — *May 2018 - Aug. 2018*
  - Building scalable end-to-end platform to train, test, and visualize machine learning algorithms on massive amounts of visual data.
  - Supervisor: Kevin Tang, Harsh Agarwal

- **Georgia Institute of Technology** — Atlanta, GA
  Graduate Research Assistant — *Aug. 2017 - Present*
  - Evaluation of AI agents for different vision and language tasks.
  - Supervisor: Dr. Dhruv Batra, Dr. Devi Parikh

- **CloudCV (Open Source Organization)** — Atlanta, GA
  Team Lead — *Jun. 2016 - Present*
  - Lead and actively maintain CloudCV Project which aims to make AI research more reproducible.
  - Responsible for the design, development and maintenance of projects like Origami, EvalAI and Fabrik that enable researchers to build, compare, and share state-of-the-art algorithms.

- **Machine Learning and Perception Lab, Virginia Tech** — Blacksburg, VA
  Research Intern — *June 2016 - May 2017*
  - **Visual Dialog**: Proposed a novel task with dataset that requires an AI agent to hold a meaningful dialog with humans in natural, conversational language about visual content.
  - **Evaluating Visual Conversational Agents Via Human-AI games**: Developed GuessWhich, a cooperative image guessing game played by a human and a visual dialog agent, to evaluate how progress in AI-AI teams translates to a human-AI team.
  - Built **EvalAI**, an open source platform for hosting AI Challenges.

- **Google Summer of Code (GSoC) 2015, 2016, 2017, and 2018** — Atlanta, GA
  Student Developer, Organization Mentor, Organization Administrator — *Mar. 2015 - Present*
  - **2015**: Selected as GSoC student where I integrated NVIDIA's Deep Learning Framework DIGITS to implement workspaces for the researchers.
  - **2016,17,18**: Mentored more than 10 students during GSOC - one of the most prestigious open source program sponsored by Google - to contribute to CloudCV.

- **Cityflo** Mumbai, India
  Software Development Internship *Dec. 2015 - Feb 2016*
  - Responsible for setting up an Test Driven Development (TDD) for Continuous Integrations in the backend code base (more than 90% code coverage).
  - TDD helped the team to have faster release cycles without worrying about code to break in production.

- **Siftr Labs** Noida, India
  Product Development Internship *Sep. 2015 - Dec 2015*
  - Developed an Android Application which communicates with beacons (low energy bluetooth devices) for indoor navigation in big offices and malls.

- **Fratmart** Noida, India
  Backend Developer *Aug. 2014 - Dec 2014*
  - Started a venture when I was a sophomore.
  - Responsible for the development of the whole product from scratch, managing the server, database management and other backend scripting tasks.

Publications

- **Do explanations make VQA models more predictable to a human?**
  A. Chandrasekaran*, V. Prabhu*, **D. Yadav***, P. Chattopadhyay*, D. Parikh
  Empirical Methods in Natural Language Processing (EMNLP) 2018
  (* denotes equal contribution)

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

- **Visual Dialog [visualdialog.org]**
  A. Das, S. Kottur, K. Gupta, A. Singh, **D. Yadav**, J.M.F. Moura, D. Parikh, D. Batra
  Computer Vision and Pattern Recognition (CVPR) 2017, **Spotlight**

- **It Takes Two to Tango: Towards Theory of AI's Mind**
  A. Chandrasekaran*, **D. Yadav***, P. Chattopadhyay*, V. Prabhu*, D. Parikh
  Chalearn Looking at People Workshop, (CVPR) 2017
  (* denotes equal contribution)

Selected Projects

- **EvalAI [evalai.cloudcv.org]**
  Open source platform to create, collaborate and participate in the AI Challenges organized around the globe; **70+ open source contributors; 1700+ issues & pull requests; 450+ stars; 200+ forks**

- **Fabrik: Build, visualize, and design neural nets in browser**
  Online collaborative platform to build, visualize and train deep learning models via a simple drag-and-drop interface; **30+ open source contributors; 850+ stars; 170+ forks**

- **Origami: Artificial Intelligence as a Service [origami.cloudcv.org]**
  An online platform for users to showcase and demo their latest models

- **Visual Chatbot: A chatbot that can see [visualchatbot.cloudcv.org]**
  Given an image, dialog history, and a follow-up question about image, the chatbot answers the next question

- **Grad-CAM Demo [gradcam.cloudcv.org]**
  Visual Explanations from Deep Networks via Gradient-based Localization

- **Visual Question Answering (VQA) Demo [vqa.cloudcv.org]**
  Given an image, a question related to that image, the model will predict an answer
- **InfoConnect [jssaten.org.in]**
  Student-Faculty interaction platform; 20,000+ users; 20,000+ notices uploaded; 5000+ daily active users

Journal Articles

- **Visual Dialog [visualdialog.org]**
  A. Das, S. Kottur, K. Gupta, A. Singh, **D. Yadav**, J.M.F. Moura, D. Parikh, D. Batra
  IEEE Transactions on Pattern Analysis and Machine Intelligence (PAMI) 2018

Teaching Experience

- **ECE 5424: Introduction to Machine Learning** Fall 2016
  Teaching Assistant with Dr. Stefan Lee

Selected Coursework

- Deep Learning, Computer Vision, Machine Learning, Distributed Systems, Design and Analysis of Algorithms, Theory of Computation, Software Engineering, Parallel Algorithms

Programming Skills

- **Languages**: Python, C, C++, C#, Java, Javascript, Lua, MATLAB
- **Frameworks**: PyTorch, Torch, Django, Flask, PyTest, Celery, RabbitMQ, ReactJS, AngularJS
- **DevOps**: Docker, Amazon Web Services, Google Cloud
- **Version Control**: Git
- **Human Computation**: Amazon Mechanical Turk
- **Databases**: MySQL, PostgreSQL, MongoDB, Elasticsearch, Redis, Couchbase
- **Mobile Applications**: Android, Windows Phone App Development

Extra Curricular Activities

- Organizing First **Visual Dialog Challenge**
- Presenting Human-in-the-loop evaluation for Computer Vision Challenges Demo in CVPR 2018
- Serving as reviewer for ECCV 2018
- Presented a demo on Visual Chatbots at CVPR 2017
- Represented CloudCV at the LDV Vision Summit, New York City 2017
- **Head Organizer**, Google Developers Group, JSS Noida
- **General Secretary**, Nibble Computer Society, JSS Noida
- **Head Organizer**, Hackathon 2015, JSS Noida

References

- Prof. Dhruv Batra, Georgia Tech (email: dbatra@gatech.edu)
- Dr. Kevin Tang, Snap Inc. (email: kevin.tang@snapchat.com)
- Prof. Seema Shukla, JSSATE Noida (email: seemashukla@jssaten.ac.in)
- Prof. Devi Parikh, Georgia Tech (email: parikh@gatech.edu)