

Varun Agrawal | Résumé

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Education

Georgia Institute of Technology

PhD Computer Science, School of Interactive Computing

Advised by Dr. Irfan Essa & Dr. James Hays

Atlanta, GA

2017–Present

Georgia Institute of Technology

MS Computer Science

Specializing in Computational Perception, Robotics, & Machine Learning

Thesis: Learning Visual Attributes, Advisor: Dr. James Hays

Atlanta, GA

2015–2017

National Institute of Technology

B.Tech (magna cum laude), Computer Science and Engineering

Thesis: A Fast Facial Expression Recognition System, Advisor: Dr. M. A. Zaveri

Surat, India

2009–2013

Work Experience

Eye Team, Georgia Tech

Graduate Research Assistant

Researcher on various topics in Computer Vision, Machine Learning, Graphics and Robotics.

Atlanta, GA

Spring 2018

CS 4476/6476 Computer Vision, Georgia Tech

Graduate Teaching Assistant

Graduate Teaching Assistant for the Undergraduate and Graduate Computer Vision class taught by Prof. James Hays. Responsibilities include assisting students on various Computer Vision assignments related to Scene Understanding, Face Recognition and Deep Learning, as well as providing clarifications on concepts and grading.

Atlanta, GA

Fall 2016, 2017

Collaborative & Advanced Robotic Manufacturing Lab, Georgia Tech

Graduate Research Assistant

The Collaborative & Advanced Robotic Manufacturing Lab (CARM) performs applied research in perception and robotics with the goal of turning fundamental research performed by Georgia Tech into actionable systems that can be used by Georgia Tech's industry partners. Advised by Dr. Larry Sweet.

- Pick-and-Place project to detect and track objects in cluttered environments using ROS and UR10 robots, with DENSO Manufacturing.
- Dual Robot Manufacturing and Redundancy Resolution for fuselage manufacturing with Boeing. I wrote the KUKA KRC drivers to allow for direct robot interfacing that is used by various labs in Georgia Tech.
- Project to develop an edge based tracker that uses state of the art Computer Vision techniques to track a car door in real time with a latency of 5ms with PSA Peugeot.

Atlanta, GA

2015–2016

Pindrop

Software Engineer Intern

- Worked with the Cloud Services team to develop microservices for calculating phone reputation scores in order to gauge the veracity of a possibly fraudulent phone calls.
- Used Python, Go and Docker to build highly scalable services and APIs to service 10 of the 15 largest financial institutions in the U.S., saving up to \$10 million annually from phone call fraud.

Atlanta, GA

May 2016–July 2016

Microsoft Corporation

Software Engineer, MACH

Hyderabad, India

2013–2015

- Microsoft Key Talent FY15
- Built a Data Analytics Toolbox for analyzing petabytes of cross-domain data and inferring data items and results to power various scenarios for the Entertainment Segments within the Bing search engine.
- Services and apps to power Microsoft's Quoting, Agreements and Core Services in the Enterprise Commerce space, responsible for over \$60 billion of Microsoft's enterprise revenue.

Microsoft Corporation

Software Engineer Intern

Hyderabad, India

May-July 2012

- Operations tool for the Enterprise Service Bus (ESB).
- Used for real time management of ESB servers and monitoring against failures.

Research & Publications

TextureGAN: Controlling Deep Image Synthesis with Texture Patches	<i>In Submission - CVPR 2018</i>
Learning Visual Attributes - The Good, the Bad and the Ugly	<i>MS Thesis</i>
Adaptive Industrial Robot Control for Designers	<i>eCAADe 2017</i>
Web-based Tools For Supporting Student-driven Capstone Design Team Formation	<i>ASEE 2017</i>
Dual Robotic Manufacturing, Poster and Demo	<i>Boeing - Georgia Tech Demo Day, 2016</i>
OneGroup - Easy Group Photo Sharing using Temporal Dynamics	<i>Microsoft Research Faculty Summit, 2016</i>
Real Time Edge Based Tracking for Robotics	<i>NNMI Poster Session, 2016</i>
Large Scale Multi Label Annotation on the Yelp Image Dataset	<i>Yelp Data Challenge, 2016</i>
Indexing Music Based On Lyrical Concepts, Poster	<i>Microsoft Machine Learning and Data Science Conference, 2015</i>
Exam Rank Expert Classification System	<i>Provisional Patent Number:2308/MUM/2014</i>
Fast Facial Expression Recognition	<i>Undergraduate Thesis, 2013</i>
Active Contour Models and Particle Filters for Object Tracking	<i>Undergraduate Research Seminar, 2012</i>

Awards

- 2017:** Marshall D. Williamson Fellowship - Outstanding MS CS student, College of Computing, Georgia Tech
- 2017:** 3rd place in The Home Depot Deep Learning Hackathon at Georgia Tech
- 2016:** 2nd - Microsoft Research Open Source Challenge
- 2015:** 3rd - Microsoft India Build The Shield CTF Competition
- 2014:** Microsoft FY15 Key Talent Award
- 2014:** 1st - Microsoft India General Quiz
- 2014:** 1st - Microsoft Capture The Flag Competition
- 2012:** 6th in India - SecurIT All India Capture Flag (InCTF)
- 2012:** 64th/1300 - **ACM ICPC** On-site National Round
- 2011:** 1st in India - Amazon What's Your Cloud Idea? Competition

Last Updated February 7, 2018