Varun Agrawal | Résumé

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Education

Georgia Institute of Technology   **Atlanta, GA**
PhD Computer Science, School of Interactive Computing   *2017–Present*
Advised by Dr. James Hays & Dr. Irfan Essa

Georgia Institute of Technology   **Atlanta, GA**
MS Computer Science   *2015–2017*
Specializing in Computational Perception, Robotics, & Machine Learning
Thesis: Learning Visual Attributes, Advisor: Dr. James Hays

National Institute of Technology   **Surat, India**
B.Tech (magna cum laude), Computer Science and Engineering   *2009–2013*
Thesis: A Fast Facial Expression Recognition System, Advisor: Dr. M. A. Zaveri

Research & Publications

Unbiasing Semantic Segmentation For Robot Perception using Synthetic Data Feature Transfer	*Technical Report*
TextureGAN: Controlling Deep Image Synthesis with Texture Patches	*CVPR 2018 (Spotlight)*
Adaptive Industrial Robot Control for Designers	*eCAADe 2017*
Web-based Tools For Supporting Student-driven Capstone Design Team Formation	*ASEE 2017*
OneGroup - Easy Group Photo Sharing using Temporal Dynamics	*Microsoft Research Faculty Summit, 2016*
Real Time Edge Based Tracking for Robotics	*NNMI Poster Session, 2016*
Indexing Music Based On Lyrical Concepts, Poster	*Microsoft Machine Learning and Data Science Conference, 2015*
Exam Rank Expert Classification System	*Provisional Patent Number:2308/MUM/2014*
Fast Facial Expression Recognition	*Undergraduate Thesis, 2013*

Work Experience

Argo AI   **Pittsburgh, PA**
Software Engineer Intern   *May 2018–July 2018*
Worked with the research group, performing research on fast object detection models for use in autonomous driving.

Eye Team, Georgia Tech   **Atlanta, GA**
Graduate Research Assistant   *Spring 2018*
Researcher on various topics in Computer Vision, Machine Learning, Graphics and Robotics.

CS 4476/6476 Computer Vision, Georgia Tech   **Atlanta, GA**
Graduate Teaching Assistant   *Fall 2016, 2017*
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.

Collaborative & Advanced Robotic Manufacturing Lab, Georgia Tech   **Atlanta, GA**
Graduate Research Assistant   *2015–2016*

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.

Pindrop   **Atlanta, GA**
Software Engineer Intern   *May 2016–July 2016*

- 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.

Microsoft Corporation   **Hyderabad, India**
Software Engineer, MACH   *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   **Hyderabad, India**
Software Engineer Intern   *May-July 2012*

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

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: $64^{th}/1300$ - **ACM ICPC** On-site National Round

2011: 1st in India - Amazon What's Your Cloud Idea? Competition

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