

# Harshit Agarwal

harshit.xyz

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## EDUCATION

### UNIVERSITY OF ILLINOIS AT URBANA CHAMPAIGN

#### BS in Computer Science

May 2017

GPA: 3.66/4.00

#### MS in Computer Science

Expected May 2018

Dean's List Fall 2016, Spring 2016

James Scholar

Course Staff for Honors Intro to CS

## COURSEWORK

Applied Machine Learning

Adv. Distributed Systems

Adv. Social and Information Networks

Computational Photography

AI for Autonomous Vehicles

FALL 2017

Machine Learning for Signal  
Processing

## SKILLS

#### Experienced:

Python • Java • C++ • Scala

C • Matlab • SQL • MongoDB

#### Familiar:

Shell • JavaScript • R • Go

HTML • CSS • Haskell • MIPS

#### Other Technologies:

Kafka • Storm • Spark

ElasticSearch • TensorFlow

ScikitLearn • Avro • PCL • Mesos

OpenCV • Akka

## MISCELLANEOUS

Some people know me for my memes. I use my knowledge about emergent behaviors in online communities to explain memes. I've presented this at UIUC and at Salesforce and have gained fame on Reddit for the same.

## EXPERIENCE

### SALESFORCE | DATA ENGINEERING INTERN

Summer 2017

Intern on the Salesforce's Einstein Platform team. Built an updated data delivery and verification architecture to propagate scoring results for leads processed by the platform's models. Also helped migrate services for the platform onto Azkaban.

### SALESFORCEIQ | SWE INTERN

Summer 2016

Built Slack bot that enables users to run queries from within Slack and to get configurable push notifications for important updates. Also created SalesforceIQ's internal webhook architecture.

### STATE FARM | SYSTEMS INTERN

Summer 2015

Built an in car gesture recognition system to detect distracted driving. Built using random forests and neural networks trained on collected point clouds and image data.

## RESEARCH

### CROWD DYNAMICS LAB AT UIUC

Worked with Professor Hari Sundaram to analyze and cluster the behavior evolution patterns in online communities using Gaussian HMMs and network analysis.

### DISTRIBUTED PROTOCOLS RESEARCH GROUP

<http://hagarwa3.web.engr.illinois.edu/gnuggies.pdf>

Worked on GNuggies - a framework for hosting services on untrusted volunteer nodes. The goal was to make censorship impossible online by enabling large scale resource sharing. GNuggies features a novel trust mechanism and has high resilience guarantees.

## PROJECTS

### ILLINOISAUUV ROBOSUB

July 2017

Our team made it to the semi-finals in the annual RoboSub (autonomous submarine) competition. I built vision based strategies for our submarine to navigate a challenge course. This involved both, offline vision models and Faster RCNNs to identify and locate various objects underwater.

### LANE DETECTION IN AUTONOMOUS VEHICLES

Spring 2017

Used Hough Transform and Inverse Perspective Mapping to detect lanes from live video in an autonomous car. Used basic motion strategy for planning lane changes. Partnership between UIUC and AutonomouStuff.

### SEARCHOVERFLOW

May 2016

Used the StackOverflow data dump and ElasticSearch to create a search engine, and trained a keyword extraction algorithm to build smart queries. Built using Python, Flask, and ElasticSearch.

## ACTIVITIES

### ASSOCIATION OF DATA SCIENCE AND ANALYTICS | PRESIDENT

Jan 2015 – Present | Urbana, IL

Worked on different data based projects every semester, including stock trend prediction and search relevance prediction. Have also organized sample projects and resources for workshops on Spark, databases, Python, basic machine learning and basic NLP. Organized the ADSA Data Summit, UIUC's first student run big data conference