

# Amartya Hatua

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[GitHub](#) | [Google Scholar](#)

## Summary

- A solution-oriented data scientist working for Fidelity Investments for the last 2.5 years.
- Technically proficient software engineer with 3 years of industry experience playing a pivotal role in the development of LG Smart android phones G2, G3, G4, G5.
- An innovator filed 2 patents on Smart TV and 1 patent on AR compatible devices.

## Work Experience

### Senior Data Scientist

March 2021-Present

#### Fidelity Investments

- **Lifetime Value Calculation:** Applied different machine learning techniques to predict Life Time Value of existing and prospective clients. Explainability of the prediction and benchmarking of data are two major parts of this initiative.

### Affiliate

July 2021-Present

#### SETI Institute

- **Cameras for All-sky Meteor Surveillance (CAMS):** Designed to monitor the whole sky for signs of meteors, which can be traced back to their cometary origins. Implemented artificial intelligence pipeline to reduce the amount of work required of human operators. To visualize the meteors showers NASA's Meteor Observation Portal is implemented.  
<https://meteorshowers.seti.org>

### Post-Doctoral Fellow

November 2020-March 2021

#### University of Houston

- **Fact Extraction and Verification:** Proposed different synthetic data generation techniques using GAN and BERT to solve the problem of fact extraction and verification. The proposed techniques are applied on a publicly available dataset, FEVER.

### Research Assistant

August 2016-August 2020

#### The University of Southern Mississippi

- **Social Bot Analysis and Information Diffusion in Social Network:** Keen, detail-oriented research and development of skills on Social Network Analysis. Identified 3 major features for Information Diffusion and 7 distinguishable characteristics of intelligent social bots on Twitter.

- **Chat-bot and Automatic dialogue generation system:** Improved the performance of Goal-Oriented chatbot by 10-15% using Transfer Learning and Attention Mechanism. Usage of Deep Reinforcement Learning along with the various concepts derived from cognitive science is the goal of this research.
- **Blockchain in Swarm Robotics:** Accelerated the consensus time by 30% and reduced the false-positive to 0% in collective decision-making problem for Swarm Robotics using Blockchain technology. [www.youtube.com/watch?v=RT-HBghq\\_Jw](http://www.youtube.com/watch?v=RT-HBghq_Jw)
- **Detection of Diabetic Retinopathy:** Explored and identified signs of diabetic retinopathy in eye images using Hadoop, MapReduce, Mahout framework and KNN classifier in a distributed environment, to classify the retina images to different classes. The proposed model produced an improved result of 5-10 % compared to previous models.

## Senior Software Engineer

### LG Soft India

August 2013-June2016

- **Road direction in camera preview of android smartphone:** Pioneered a novel feature in the Camera application of LG Android mobile phone. It eases the user to navigate by displaying the real time direction on the camera application. Designed and integrated Google Map APIs and LG Camera application. Formalized the algorithm as part of the 5-member team.  
[www.youtube.com/watch?v=loGSTczQJbo](http://www.youtube.com/watch?v=loGSTczQJbo)
- **Camera flash reduction:** Reengineered the algorithm to reduce the light effects in the image taken by a mobile phone's camera. Redesigned the algorithm and implemented using Poisson blending, thereby enhancing the efficiency of the algorithm by 10-15%.
- **Structured data retrieval in file manager application of android smartphone:** Incorporated a feature in the file manager application of LG Android mobile phone. Modeled and merged Google Map APIs and LG file manager application. Developed the algorithm and implemented it as part of the 5-member team.

## Education

Ph.D (Computational Science), University of Southern Mississippi	2016-2020
M.Tech, Information Technology, National Institute of Technology Karnataka	2011-2013
B.Tech, Information Technology, Calcutta Institute of Engineering and Management	2006-2010

## Techniques, Software & Research Interest

**Programing Language** C, Java, Python, R, Matlab

**Research Interest** Machine Learning, Deep Learning, Data Mining, Natural Language Processing (NLP), Recurrent Neural Network (RNN), Convolution Neural

Network (CNN), Long Short-Term Memory (LSTM), Generative Adversarial Network (GAN), Blockchain, Swarm Robotics, Transfer Learning, Attention Mechanism, Reinforcement Learning

**Current Research Areas** Chatbot, Social Bot, Artificially Dialogue Generation, Social Network Analysis

**Libraries** Tensorflow, Keras, Scikit Learn, Pandas, Numpy

## Patents

- IMAGE DISPLAY: [KR20180035045A](#)
- DISPLAY DEVICE AND CONTROLLING METHOD THEREOF: [KR20170012998A](#)
- APPARATUS FOR CONTROLLING IMAGE DISPLAY AND METHOD THEREOF: [KR20160008893A](#)

## Awards

- Selected among Top 1.2% of students in the Graduate Aptitude Test in Engineering (GATE)-2011 in Computer Science and Information Technology from 136027 students.
- Recipient of a full scholarship for Bachelor of technology in Calcutta Institute of Engineering and Management (2006-2010).
- Recipient of Graduate Aptitude Test (GATE) in Engineering Fellowship from Ministry of Human Resource Development, Government of India for Master of Technology (2011-2013).
- Recipient of Graduate Travel Award (Fall-2019) from the College of Arts and Sciences, The University of Southern Mississippi.