

# Anshuman Chhabra

Senior Undergraduate

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Education     **Netaji Subhas Institute of Technology**  
B.E. in Electronics and Communication Engineering  
Aggregate Percentage - **73.315%** (First Division)

Publications     Journal Article

**A fuzzy logic and game theory based adaptive approach for securing Opportunistic Networks against black hole attacks**, accepted for publication in the *International Journal of Communication Systems (Wiley)*, 2017

Authors: **A. Chhabra**, V. Vashishth, D.K. Sharma

Document: [\[pdf preprint\]](#)

Conference Proceedings

**Classifying Elephant and Mice flows in High Speed Networks**, accepted at the *INDIS, IEEE/ACM Supercomputing Conference, Denver, 2017*

Authors: **A. Chhabra**, M. Kiran

Document: **To be published in *IEEE Xplore*** [\[pdf preprint\]](#)

**A game theory based secure model against Black hole attacks in Opportunistic Networks**, presented at the *51st IEEE Conference on Information Sciences and Systems (CISS)*, Johns Hopkins University, Baltimore, MD, USA, 2017

Authors: **A. Chhabra**, V. Vashishth, D.K. Sharma

Document: **Published in *IEEE Xplore*** [\[pdf\]](#)

**SEIR: A Stackelberg game based approach for energy-aware and incentivized routing in selfish Opportunistic Networks**, presented at the *51st IEEE Conference on Information Sciences and Systems (CISS)*, Johns Hopkins University, Baltimore, MD, USA, 2017

Authors: **A. Chhabra**, V. Vashishth, D.K. Sharma

Document: **Published in *IEEE Xplore*** [\[pdf\]](#)

**A predictive approach to task scheduling for Big Data in Cloud environments using classification algorithms**, presented at the *7th IEEE Conference on Cloud Computing, Data Science and Engineering*, Amity University, India, 2017

Authors: V. Vashishth, **A. Chhabra**, A. Sood

Document: **Published in *IEEE Xplore*** [\[pdf\]](#)

Internships     **Energy Sciences Network (ESnet), Lawrence Berkeley National Laboratory (Jointly run by Univ. of California and U.S. Dept. of Energy)**

Position: **Student Research Assistant (June 15th - August 31st 2017)**

→ Selected out of a competitive pool of PhDs, graduates and undergraduates

→ Projects involved traffic shaping, machine learning and anomaly detection

→ Employed state-of-the-art techniques such as RNNs, Random Forests, etc.

### **Morphle (Startup in Bengaluru, India)**

Position: **AI/ML Intern (December 5th 2017 - January 15th 2018)**

- Wrote software for the automated microscope scanner patented by Morphle
- Implemented deep learning architectures for WBC and Epithelial cell detection in urine and blood samples
- Trained ResNets, DenseNets and other CNN architectures from scratch on the pathology slide data to achieve precision and classification accuracy above 95%

### **Be U Salons (Gingerpan Swapcart Pvt. Ltd.)**

Position: **Machine Learning Intern (January 1st - May 1st 2017)**

- Built an end-to-end visual customer recognition system
- Deployed the project using Flask, CMU Openface and Docker
- Designed and developed a chatbot for the main salon website

## Competitions

### **1<sup>st</sup> position (“Patient Love” track) in Practo Sandbox Hackathon, 2017**

**A hackathon aimed at building innovative medical technology solutions**

- Built a self-diagnosis toolkit for patients without relying on external sensors
- Features included pulse rate calculation, deafness/hearing tests and real-time jaundice and anaemia identification using image processing techniques
- Code is available [here](#) and video of demo/presentation is available [here](#)

### **1<sup>st</sup> position in IBM India Challenge, 2017**

**A national hackathon and coding competition for designing a chatbot**

- Built 'Chatagram', a banking chatbot using ReactJS and Python
- Code is open source and available [here](#)
- Team awarded first place out of contestants from across the country
- Video interview released by IBM India University Relations is available [here](#)

## Skills and Interests

**Languages, Frameworks and Technologies:** Python, Ruby, C++, Java,  $\LaTeX$ , MATLAB, ONE Simulator, Scikit-learn, Tensorflow, POX (Openflow), CloudSim, Mininet, Docker, CMU Sphinx, CMU Openface, Flask, Eve, Coq, P4, OpenCV  
**Research Areas:** Networked Systems, Machine Learning, Wireless Networks

## MOOCs

- **Machine Learning** (Stanford University) [[View](#)]
- **Ruby on Rails: An introduction** (Johns Hopkins University) [[View](#)]
- **Rails with Active Record** (Johns Hopkins University) [[View](#)]
- **Rails with MongoDB** (Johns Hopkins University) [[View](#)]
- **HTML, CSS and Javascript** (Johns Hopkins University) [[View](#)]

## Co-Curriculars

**Represented New Zealand at Harvard National MUN in Boston**

Participated in the Legal Committee, discussing terrorism and secession (2015)

**Director of the Debating Society of NSIT**

Mentored juniors for Parliamentary Debate competitions (2015-2016)