

# Shrobon Biswas

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## Education

9/2016 - 4/2018

University of Alberta (Edmonton, Canada)

M.Sc in Computing Science | Specialization in Multimedia | GPA: 4.0

8/2012 - 7/2016

West Bengal University of Technology (Kolkata, India)

Bachelor of Technology in Computer Science & Engineering | GPA: 8.82

## Technical Skills

- ▶ Java: Spring, Hibernate, JUnit, EasyMock, Powermock
- ▶ Python: Keras, Scikit-Learn, Pandas, Seaborn, Matplotlib, OpenCV, Scrapy
- ▶ Web: NodeJS, Python(Flask), Redis, AJAX, JQuery, D3.js, JavaScript, HTML, CSS
- ▶ AWS: DynamoDB, SQS, Lambda, S3, ELB, Cloudwatch
- ▶ Big Data: Hadoop, Hive, Kafka, SPARK, Ambari, MongoDB, MySQL
- ▶ DevOps: Docker, Git, Jenkins - CI/CD pipeline, NGINX, bash

## Authored online courses

Hands on Computer Vision with OpenCV & Python

- ▶ Enrolments: 517 students (as of 8/4/2018) | Website: <https://goo.gl/Yz5sQd>

## Relevant Coursework

- ▶ Software Engineering | Distributed Systems
- ▶ Object oriented programming | Data Structure | Algorithms | Databases
- ▶ Python for Data Science | Machine Learning | Image Processing | Deep Learning
- ▶ Complete Android developer course
- ▶ Artificial Intelligence & Game Programming | Heuristic Search

## Projects

XYZurl.me : Web: <https://goo.gl/a5EEdb> | Chrome Extension: <https://goo.gl/F2uGa5>

**Description** : A nodeJs web-app to help shorten URL's, with additional features of url tracking and incoming traffic analytics.

- ▶ A chrome extension has been published in Google webstore to help users shorten the URL's of their current page easily. Geo-location, IP, country, number of hits on the URL and timezone of the visitor gets tracked by the webapp.
- ▶ *Skills*: NodeJs, Redis, MongoDB, Facebook login API, Javascript, Heroku, Git

**Dev-Support** - A marketplace for developers to showcase & sell their projects | *Skills*: Python, Github API, Stripe API, Materialize

- ▶ Presented at hackathon [HackEd 2017](#), Preview: <https://goo.gl/aEqTEr>

**Talkativ** -A lightweight chatroom app built using NodeJs, Redis, MongoDB, NGINX and Facebook login API

- ▶ Web: <https://goo.gl/oJ2xoM>

**Tweenalyzer** - Twitter data analysis WebApp deployed on Heroku Cloud using Flask Framework(Python), pandas, and google charts

- ▶ Web App: <https://goo.gl/nYc8PB>

**Safari Rush AI** - An AI to solve any puzzle configuration for the game of Safari Rush Hour | Documentation / Code: <https://goo.gl/1UoHdY>

- ▶ Uses SMA\*algorithm, blocking vehicle heuristic | Decreased search time by 30% by using efficient data structures.

**Ataxx AI** - An AI opponent that plays optimal moves in limited time to win the game of Ataxx

- ▶ Uses Alpha-beta pruning with iterative deepening | Hashtables are used for memoization | Documentation: <https://goo.gl/eWtGGP>

## Traditional Chinese Medicine Image Classification

- ▶ 98% Classification Accuracy was achieved | Project Website: <https://goo.gl/Nmz8HG>
- ▶ K-Means clustering algorithm was used to accurately differentiate between the foreground(Herb), from the background.
- ▶ A python script was coded to automate extracting and labelling the target herbs from the given images using segmentation.
- ▶ The segmented images were trained using a Random Forest Classifier.

## Improving image classification accuracy of Kaggle Cat vs Dogs dataset using Deep-Learning

- ▶ Increased classification accuracy to 91.18% | Skills: Keras(Theano), Python, OpenCV | Project Video : <https://goo.gl/8iewQK>
- ▶ Performed just-in-time Image Augmentation to tackle overfitting on the reduced Cats Vs Dogs dataset.
- ▶ Utilized Random Search algorithm as a base for effective hyperparameter tuning.

## Work Experience

6/2017 - 2/2018

Amazon.com (Vancouver, Canada)

Team: Corporate Gift Cards

Role: SDE Intern

- ▶ Designed and implemented automatic periodic email delivery of transaction reports for Amazon Gift Card on Demand Customers. (in production)
- ▶ Engineered an efficient, scalable and timezone-adaptive scheduling mechanism for customised notifications.

*Skills*: Java, AWS (SQS, DynamoDB), EasyMock, Git, PowerMock, Javascript, Continuous Deployment

6/2015 - 8/2015

Attify Mobile Security Pvt.Ltd (Bangalore, India)

Role: IOT Research Intern

*Skills*: python, javascript, docker, git, Arduino

## Certifications

Microsoft Certified Professional

License: E873-5473, July 2014

## Publications

IoT-MQTT based Energy Efficient Economic Home Automation System (first author)

3rd International Conference on Microelectronics, Circuits and Systems, Micro2016.