

# Swastik Roy

Personal Website: <http://swastikroy.me>

## CONTACT INFORMATION

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## WORK EXPERIENCE (+2 Years)

### RESEARCH WORKER at **CYBERINFRASTRUCTURE AND COMPUTATIONAL INTELLIGENCE LAB**

January 2018 – March 2018 | Tempe, AZ

- Developed **semantic analysis** techniques for thematic classification of geospatial metadata from OGC web services.
- Developed entity extraction algorithm to extract geospatial entities from the metadata using DBpedia and GCMD ontology.

### GRADUATE TEACHING ASSISTANT at **ARIZONA STATE UNIVERSITY**

August 2017 – December 2017 | Tempe, AZ

- Presented subject material to students in the form of lectures for course CSE340 “Principles of Programming Languages”.

### SOFTWARE ENGINEER at **BEEHYV SOFTWARE SOLUTIONS**

June 2015 – June 2017 | Hyderabad, India

- Engineered end to end modules for a Question-Answering Platform used to answer user queries on ecommerce websites.
- Increased accuracy of the software to interpret questions by 18% using **Natural Language Processing** techniques such as dependency parsing, named entity recognition, relationship extraction and **Machine Learning** to classify questions.
- Developed **crawlers** and **parsers** to extract text from documents(DOC, PDF) & Web using Apache Nutch, JSoup, HTMLUnit.
- Improved accuracy of HTML DOM based approach to **extract semi-structured data** from web by extending with visual approach using CSSBox library, from 51% to 75%.
- Implemented ranking algorithm to rank answer responses based on the cosine similarity of their word vectors.
- Built plugins(**Magento, Jira & Standalone Javascript SDK**) to integrate the platform into third party websites.

## INTERNSHIP

### SUMMER ANALYST at **GOLDMAN SACHS**

May 2018 – Aug 2018 | Salt Lake City, Utah

- Designed and developed User Interface using ReactJS, Redux.
- Responsible to develop REST modules using Java Spring, Spring Data JPA and Jersey framework.
- Developed web visualizations using D3.js.

## ACADEMIC PROJECTS

### [INTELLIGENT TEAM FORMATION FOR RESEARCHERS](#) at **ARIZONA STATE UNIVERSITY**

Aug 2017 – Dec 2017 | Tempe, AZ

- Extracted technical key phrases from research papers using POS Tagging, Named Entity Recognition, Stopword Elimination and LDA Topic Modelling.
- Trained Doc2Vec model using 30,000 research papers from ACL anthology dataset.
- Implemented Graph Clustering Algorithm from citation and collaboration network of researchers.

### [AMERICAN SIGN LANGUAGE \(ASL\) RECOGNITION](#) at **ARIZONA STATE UNIVERSITY**

Jan 2018 – Apr 2018 | Tempe, AZ

- Developed classifiers to classify american sign language gestures using accelerometer, gyroscope and orientation sensors.
- Responsible for data curation, analysis, feature selection and building classifier using 5 machine learning techniques - SVM, KNN, Decision Tree, Naive Bayes and Neural Networks.

## EDUCATION

MASTERS IN COMPUTER ENGINEERING  
**ARIZONA STATE UNIVERSITY, Tempe, AZ**

Cum. GPA: 4/4  
Expected May 2019

BACHELOR OF TECHNOLOGY  
**INDIAN INSTITUTE OF TECHNOLOGY, DHANBAD, INDIA**

GPA: 7.56/10  
Graduated May 2015

## SKILLS

**Programming Languages:** Java • JavaScript • Python • C/C++

**Databases:** MySQL • MongoDB • Elasticsearch • SQLite

**Web:** HTML5 • CSS/SCSS/LESS • Grunt/Gulp • Bower • JQuery, Angular, React • Bootstrap, SemanticUI • SEO

**Frameworks:** Java Spring • Python Django • PHP Codigniter • NodeJS • Apache Spark • Turf • Twig • SockJS

**Natural Language Processing Tools:** OpenNLP • WordNet • Word2Vec • IBM Watson • Stanford CoreNLP • Apache Nutch

**Familiar Machine Learning Tools:** Scikit Learn • DeepLearning4j • Tensorflow • Gensim • Keras

## AWARDS

- National Finalist at Microsoft Imagine Cup, India 2013, 2014 and 2015