

# AKSHAY KULKARNI

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[akshay-a-kulkarni.github.io](https://github.com/Akshay-A-Kulkarni) | [github.com/Akshay-A-Kulkarni](https://github.com/Akshay-A-Kulkarni)

## EDUCATION

### NORTHEASTERN UNIVERSITY

Khoury College of Computer and Information Sciences

*Candidate for Master of Science [M.S.] in Data Science*

**Related Courses :** Algorithms, Data Management and Processing, Information Retrieval, DBMS  
*Large Scale Parallel Data Processing (MapReduce & Spark) and Supervised Machine Learning*

**Boston, MA.**

*Sep 2018 - Present*

*GPA: 3.7335*

### BIRLA INSTITUTE OF TECHNOLOGY & SCIENCE, PILANI – DUBAI CAMPUS

B.E. [Hons] in Electronics and Communications Engineering

**Related Courses :** Digital Image Processing, Communication Systems

**Dubai, U.A.E.**

*Aug 2012 - Jul 2016*

## SKILLS

**Languages :** Python, R, SQL,

Java ,Octave ,MATLAB ,Scala ,

JavaScript, HTML ,CSS/Sass

**Tools & IDE'S :** IntelliJ IDEA and

PyCharm, RStudio , Jupyter, Git ,

Tableau , MySQL Workbench, Docker

**Libraries & Frameworks:** Scikit-Learn,

NumPy , Pandas , TensorFlow, Keras,

SQLA , Django , Flask , DASH , kernlab,

Lucene, Apache Spark, Apache Hadoop

## WORK EXPERIENCE

### NORTHEASTERN UNIVERSITY - Graduate Teaching Assistantship

→ **CS-3200 [DBMS]**

→ **DS-4100 [Data Collection, Integration and Analysis]**

- Designing coursework and assignments, evaluating student projects.
- Guiding and teaching students in-class or during office hours to help them master assignments and to reinforce learning concepts such as tidying ,storing and analysing data, employing modelling techniques - regression, clustering and other machine learning techniques in R.

**Boston, MA.**

*Sep 2019 – Present*

*Jan 2019 – May 2019*

### PREDIKLY - Junior Analyst

- Worked on generating statistics, visualizations and dashboards for projects like Cloud based collaboration platform for CA/CPA/CS clients to manage their Practice online with cutting edge BI Tools like Tableau and assisted in building predictive analytics solutions.

**Pune, India.**

*Aug 2017 - May 2018*

### ZIO TECHNOLOGIES L.L.C - Sales and Statistics Intern

- Acquisitoned, managed and analysed product statistics/data for projects and tender submissions and assisted on Systems and AV integration for large scale projects in Dubai for the Government of Dubai and other major sites

**Dubai, U.A.E.**

*Aug 2015 – Jan 2016*

## ACADEMIC PROJECTS

### Decision Support Framework/Multi-Objective Optimization & Visualization Tool

*Jun 2019 – Aug 2019*

- Deployed a re-usable database-agnostic decision support tool with a React front-end and the core components developed purely in Python to enable a user to link any database to the tool to extract and display an interactive manipulable decision matrix of values & calculate the Non-Dominated set of solutions to aid the user with multi-objective trade-off analysis and to plot a spatial interactive Pareto Frontier/Curve for the selected features or objectives

### Building a complete Information Retrieval Model.

*Jan 2019 – Apr 2019*

- Implemented an information retrieval model in Python and using Lucene, using several ranking algorithms such as BM25,QLM & Vector Space to rank parsed and cleaned documents, while optimizing the search engine by employing stopping, stemming as well as pseudo-relevance feedback algorithms, query expansion via Word2Vec-trained embeddings & generating summarization with Luhn's algorithm

### Analytical Occupation Classification on O\*NET Database using Gaussian Process Classifier

*Mar 2019 – Apr 2019*

- Employed Gaussian Process Classifier on the O\*NET database containing information on hundreds of standardized and occupation-specific descriptors with other models such as QDA to compare performance and tradeoffs to determine the best model for classifying a given occupation from the O\*NET being *Analytical* in nature.

### Implementing a Web Crawler and Parsing and Tokenizing, Ranking Scraped pages.

*Jan 2019 – Feb 2019*

- Built a comprehensive web-crawler Python to retrieve links from a specified wiki seed page while also scraping the text from crawled pages for cleaning, tokenization & analysis to generate corpus text statistics. as well as implemented Google's PageRank algorithm from scratch to rank the crawled pages graph. as part of a larger aim to build a complete search/retrieval engine

### Analysis of Human Development in India using IHDS-II dataset

*Oct 2018 – Dec 2018*

- Utilised R and its tools to collect clean and explore factors affecting human development in rural India in two different time frames of 2005-06 and 2011-12. Using generalised logistic regression models and random forest models to predict the trend of various factors on a range of indicators including factors affecting women's employment and agricultural / business yield